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LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interests of Lake Carriers, and improve the character of the service rendered to the public.

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ANNUAL REPORT OF CHIEF OF ENGINEERS.

The annual report of the Chief of Engineers of the Army, Brig. Gen. John A. Wilson, made public this week, submits estimates for river and harbor works already authorized by Congress, but not provided for by continuing contracts, amounting to $26,906,621. In addition he asks for $15,582,626 to carry on works already contracted for.

The report shows that the existing approved projects for seacoast defenses contemplate the emplacement of about 500 heavy guns of 6, 10, 12, and 16-inch calibre, of about 800 rapid-fire guns and about 1,000 mortars at an estimated cost for engineering work of $55,000,000. An estimate of $4,500,000 is submitted for continuing the work of construction of these batteries and for the defense of Porto Rico. The sum of $5,663,000 was allotted by the President out of the national defense fund in all for the engineering department. On the subject of rivers and harbors, the chief of engineers expresses satisfaction at the work of the contract system generally. He recalls that in the case of the vast Mississippi river improvement on that section of the river between St. Paul and the mouth of the Ohio, Congress twice made provision for three year periods of work and as this last appropriation is about to lapse he recommends that provision be made for a further period of three years by appropriating the sum of $1,500,000 with a proviso that the Secretary of War may let additional contracts for the continuous improvement of the Mississippi between the points named, or undertake the work by other methods under a limit expenditure of $1,500,000 per year for three years, commencing July 1, 1901. The appropriation is to be divided so that $673,333 shall be expended between the mouth of the Ohio river and the mouth of the Mississippi river, and the remainder on the upper river.

The conditions under which the Secretary consented to the connection of the Chicago drainage canal with the Chicago river, are set out in detail by the report. Gen. Wilson says that this canal is of vast importance to Chicago, but, on the other hand, the most serious problem is raised by the possible ill effects on navigation by lowering the levels of the Great Lakes. The question, he says, has been only temporarily settled by the conditional permit from the Secretary, but, owing to its great importance it should receive the attention of Congress.

A summary of the detailed estimates recommended for river and harbor work shows among others the following items: Mississippi river from Ohio river to Missouri river, $850,000; from Missouri river to St. Paul, $1,000,000; Fox river, Wis., $100,000; reservoirs at head waters of the Mississippi river, $300,000; Conneaut harbor, O., $150,000; Fairport harbor, O., $200,000; Sandusky harbor, O., $100,000; Chicago harbor, Ill., $50,000; Grand Marais, Mich., $100,000; Holland (Black Lake) harbor, Mich., $103,600; Ludington harbor, Mich., $91,300; Marquette harbor, Mich., $50,000; Muskegon harbor, Mich., $72,600.

In addition to the foregoing, the following estimates are made under the continuing contract system: Cleveland, O., $400,000; Toledo, O., $200,000; M chigan City, Ind., $196,000; Calumet harbor, Ill., $300,000; Portage Lake Refuge, Mich., $85,000; St. Joseph, Mich., $330,000; Sand Beach, Mich., $300,000; Kenosha, Wis., $141,000; Milwaukee Bay, $105,650; Racine, Wis., $650,650; Sheboygan, Wis., $52,000; Duluth, Minn., $837,000; Mississippi river between St. Paul and Minneapolis, $150,000; Chicago river, $137,000; Illinois and Mississippi canal, $1,000,000; Detroit river, $300,000; Hay Lake channel, $294,115; Waterway Keweenaw Bay to Lake Superior, $175,000.

Estimates to be submitted to Congress for money needed for Michigan rivers and harbors for the next fiscal year are as follows: Keweenaw canal, $175,000; Marquette harbor, $50,000; Grand Marais, $100,000; Menominee river, $10,000; Menominee harbor, $5,000; St. Joseph harbor, $340,000; St. Joseph river, $750; South Haven, $10,000; Saugatuck, $10,000; Kalamazoo river, $125,000; Holland harbor, $110,000; Grand Haven, $42,600; Grand river, $250,000; Muskegon, $84,200; White Lake, $27,500; Pentwater, $41,140; Ludington, $97,300; Manistee, $38,200; Portage Lake, Manistee county, $85,000; Frankfort, $54,000; Charlevoix, $31,000; Petoskey, $62,700; Hay Lake, $294,115; Cheboygan, $13,000; Alpena, $5,000; Saginaw river, $50,000; Harbor Beach, $207,500; mouth of Black river, $5,000; Black river, $28,000; Clinton river, $5,000; Detroit river, $300,000; Monroe, $11,000.

Colonel Jared A. Smith, Corps of Engineers, U. S. A., who has charge of the improvements along Lake Erie, estimates that 400,000 should be expended in continning the harbor work at Cleveland during the fiscal year ending June 30, 1901, and that the cost of maintenance of the present improvement is $160,300. This latter sum includes what Col. Smith thinks can be expended for dredging the harbor of refuge. His estimates for the other ports under his jurisdiction are as follows:

Amounts required for completing existing projects: Fairport, $405,000; Ashtabula, $430,000; Conneaut, $407,000; Lorain, $600,000; Monroe Harbor, Mich.; $11,000; Toledo, $800,000; Port Clinton, $9,000; Sandusky, $345,796; Huron, $117,500; Erie, $252,000.

Amounts that can be expended profitably in the fiscal year ending June 30, 1901; Fairport, $200,000; Ashtabula, $150,000, and $10,000 for maintenance of present work; Conneaut, $150,000, and $10,000 for maintenance; Erie, $252,000; Lorain, $150,000, and $5,000 for maintenance; Monroe Harbor, $11,000; Toledo, $200,000; Port Clinton, $9,000; Sandusky, $100,000, and $5,000 for maintenance; Huron, $50,000 and $25,000 for maintenance.

NAVAL DRILL SHIPS.

The Hartford, Farragut's old flagship, is the appropriate craft chosen for a training ship. She is being fitted out at San Francisco and will go around Cape Horn or westward by way of Manila. Commander Hawley, U. S. N., now in charge of the U. S. S. Hartford says:

"We will take about 300 men with us, and before we get to our journey's end we expect to have 300 first class seamen to turn over to the government. Most of these men are from St. Paul, Chicago, St. Louis, Cleveland and Cincinnati. They are the best stock in the country. They are young—the government will only accept men between the ages of 18 and 25, of good character and they are all American born. There is no reason in the world why they should not turn out to be an honor to the country whose battles they may be called upon to fight. Most of them have been receiving instructions at the yard for some time past and consequently will not go to sea entirely ignorant of the duties they will be made to perform.

"This idea of a training ship is something new. The government has had apprentice boys for many years but this is the first time it has devoted a vessel to the work of making sailors out of grown men.

"The idea that the American navy is full of foreigners is a mistake. The percentage of American-born men now in service is about 87, and this will rapidly increase under the present system until the whole service will contain nothing but Yankees. We want all the good men we can get. The eastern coast is about worked out for the present and we want to get a few men from the west. The quota of enlisted men allowed by Uncle Sam is still about 17,000 short, and I see no reason why it cannot be made complete by the young blood from this end of the world."

ANTARCTIC RESEARCH.

The scientists are now turning their attention to the South Pole. By agreement of the late Berlin congress of geographers, the exploration of the Antarctic continent is to be taken up and pushed with whatever success is possible. England is to send an expedition and so is Germany. Each has a certain work mapped out for it, and is not expected to encroach upon the other's field. Each expedition will carry its scientific observers and be thoroughly equipped for the work in hand. They will be guided largely by the experiences of Arctic explorers, and will devote three years to their task. Their work promises, if successful, a much greater addition to the world's stock of geographical knowledge than is now possible through northern exploration. For the north polar regions have been receiving the attention of explorers for scores of years, while the Antarctic continent still remains practically a terra incognita. The reason is not quite apparent, for if one frozen region is so alluring as to induce men to risk their lives and spend their money, time and health in searching out its wonders, why should the other field be considered less profitable?

GREATEST STORM ON RECORD.

The track of the longest-lived storm in the history of the Hydrographic Office—the hurricane of September—is shown on the October chart of the North Atlantic ocean. The blow started August 3, midway between South America and Africa and north of the equator. It swept the West Indies from September 7 to 10, and was off lorida September 14. It struck Cape Hatteras September 17, and passed Cape Henry September 19, and then put out to sea and swept the Atlantic to the coast of France, occupying a period of nineteen days. The storm traveled across the ocean and was last heard of in Italy. This was the hurricane that blew 160 miles an hour at Cape Hatteras.

TRANSFERS OF VESSEL PROPERTY.

The following transfers of vessel property were recorded at the Milwaukee customs office this week: Jennie M. Fitzpatrick, one-tenth of the steamer Nebraska to J. C. Fitzpatrick, of Buffalo, $1; Carter Lumber Co., of Green Bay, one-half of the steamer Colin Campbell to William L. Martin, of Cheboygan, $8,000; William Rothe, of Green Bay, schooner Champion, to H. A. Strauble, C. Grove, G. D. Nau, and M. P. Wing, of Green Bay, $120.

DETROIT.

Special Correspondence to The Marine Record.

The fog signal on the dummy light which was discontinued for repairs is in operation again.

Capt. Jas. Corrigan, of Cleveland, has bought the steamer John Owen and schooner Michigan from the J. Emory Owen Transportation Co.

David Carter, general manager of the Detroit & Cleveland Navigation Co., makes the statement that the D. & C. company has dropped the plan for putting a line of steamers on the Detroit-Buffalo route.

Mr. H. W. Oliver, representing the Carnegie Steel Co., visited here this week, and, as the report goes, tried to secure some more tonnage, either by purchase or charter. The Senator is one boat that it is said Mr. Oliver was after, also the new boat building at Wyandotte.

Civil Engineer George Y. Wisner, of Detroit, with the other members of the Deep Waterways Commission, is in Montreal. It is likely the party will inspect the St. Lawrence canal system. The Canadian department of public works is affording them every facility for inspection.

It is learned here that articles of incorporation have been filed with the Secretary of the State of Minnesota, by the Canada-Atlantic Transit Co., of the United States, capital $250,000, for the Duluth-Ontario trade, by James T. Rose, of Duluth, Harry L. Moore, of Minneapolis, William H. Burk, Hiram F. Stevens, and William R. Sache, of St. Paul.

The Deputy Minister of Marine and Fisheries sends out a notice this week that the steam fog alarm at Pointe Pelee, Lake Erie, has been temporarily discontinued, pending repairs to the boilers. It is to be hoped that the Dominion Government will not be lax in having these repairs executed as Pointe Pelee controls, in a measure, Lake Erie tonnage.

The thirty days ending with Oct. 15 made up the busiest month in the history of the marine branch of the Detroit post office. The number of vessel passages was 3,156 and 20,536 pieces of mail were delivered to them and 10,311 collected. Oct. 12 was the big day. In twelve hours 103 vessels passed and 1,078 pieces of mail were tossed on board of them.

The steamer Panther and the schooner Massasoit were sold this week by the Union Safe Deposit Company to William and Joseph Rend. The Massasoit is now on the coast, and was one of the large fleet taken under charter of the Atlantic Transportation Co., which afterwards failed. She will be brought back to the lakes at the end of the season. The two boats will be used in the coal trade.

The little ocean-going yacht built by Vinton & Co. at the foot of Orleans street, will be launched this week. Her New York owner, Mrs. Vandepool, has sent on money for the workmen with which to make a celebration at the launch. A case of champagne and a keg of beer, with cigars and other requisites, will be on hand when the trial trip is made, and the craft will be thoroughly baptized with alcohol before getting a taste of salt water. She will reach New York via the Erie canal.

The Craig Ship Building Co., Toledo is to establish a plant for the construction of engines. The shop, 160 by 75 feet, is already under way, and some of the tools have been purchased. A number of heavy tools will be provided for work aside from marine lines that may be secured in and around Toledo. The Craig Ship Building Co. now has a berth idle in the shipyard, and if they do not secure a contract for another boat shortly will undoubtedly put one down on their own account.

A Toledo report says that Capt. Griffin, late master of the lost schooner Typo, which was sunk by the steamer W. P. Ketcham, in filing his wreck report, stated that the collision was due to the incompetency and carlessness of the officers of the steamer. The masts of the barge Laura Miller, which sank in the lake outside of the outer can buoy, have been broken off and there is nothing to mark where the hull lies. The wreck is loaded with coal, and is a dangerous obstruclion to deep loaded vessels.

Steamer known at the Wyandotte shipyard as No. 133, a duplicate of the Angeline, recently completed for the Presque Isle Transportation Co., Cleveland, will soon be launched at Wyandotte, from the yards of the Detroit Ship Building Co. Her dimensions are 435 feet over all, 50 feet beam and 28 feet molded depth. When loaded to 7,000 tons, her draft will be 18 feet. The engines of 1,450 horse-power, with cylinders of 22, 35 and 58 inches, with a 42-inch stroke, will be able to make a speed of 12 miles an hour. The boilers, two in number, will be 13 feet 2 inches in diameter, by 11 feet 6 inches long, and the 40-inch furnaces will be supplied with the Howden hot-air draft. All modern appliances will be put on the steamer, including electric lighting, steam winches and steam steering gear, steel spars and electric range and side lights. She is being built to the order of the American Steamship Co., a new company controlled by the McMillans.

Postmaster Dickerson says that the charges made against the Marine Postal Department by the resigned Capt. Hilliger, of the mail boat Florence B. are rather thin. The carriers and clerks have been examined, and it has been found that the "packages" which the carriers are said to have delivered in competition with Westcott were only newspapers and magazines which had come through the mail unstamped. Hilliger, not knowing that such mail matter did not need a stamp, probably thought the bundles were other than mail matter. Second, in no more than half a dozen cases have passengers been carried this year. In the rules of the mail boat service it is stated that people must be taken off boats when they have no other means of reaching shore. At times when Westcott's boat failed to respond to the vessel's signal for a small boat, and when there was urgent need of the person reaching shore, the mailmen have accommodated such without pay.

DULUTH—SUPERIOR.

Special Correspondence to The Marine Record.

The grain rate is still at 4¾ cents on wheat to Buffalo.

The receipts of wheat have been unusually large during the past week, and, while charters have been brisk, there will be enough to carry away at good freight rates, until navigation closes.

There will evidently be a shortage in the coal supply here this winter. From the present showing we are 75,000 tons of anthracite and 100,000 tons of bituminous lower than last year at this time with very little chance of our now picking up on receipts. The prices of coal have also advanced and more than likely will go still higher in the very near future.

Work on the new barge No. 144 has been started this week to the order of the Bessemer Steamship Co She will be a sister ship to the Smeaton and carry from 7,000 to 8,000 tons. Material for the construction has come along with considerable promptness this week and a large force of men is certain of employment at the West Superior shipyards throughout the winter.

The fleet of lumber carrying boats and the handling of lumber was never so great as during the past week, any man that could shove a piece of lumber was paid half a dollar an hour for doing so, and there was lots of it to do. Receipts of anthracite coal are fairly good, bnt we have been short on bituminous, and, as the season is drawing to a close, we are no doubt likely to have a soft coal famine this winter, or pay exorbitant prices for the product.

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The Great Northern road has lately bought 17,000,000 feet of fir timber in Washington, nearly all of it for the road's proposed ore dock at Allouez bay. Nearly half this enormous order has been bought in the past 10 days, and it has so crowded the already busy mills of the north Pacific coast that no one there will now take large orders. This dock will be the largest in existence, and will give the Great Northern system a dock capacity of about 400,000 tons. The Duluth and Iron Range road now has 160,000 tons capacity, and the Duluth, Missabe and Northern 127,000. Both these roads will probably build more docks the coming winter.

The local board of steamboat inspectors has made its decision in the matter of the complaint of Capt. Walter J. Cayo, of the tng E. P. Ferry, that the tug Eliza Williams blew a cross signal in answer to one blast from the E. P. Ferry, and that the Williams was in charge of a deck hand at the time instead of a pilot. The inspectors find that both Capt. A. T. Green, of the Eliza Williams, and Capt. W. J. Cayo, of the E. P. Ferry, are equally at fault in not giving passing or danger signals, as required by Rule No. 3, before coming within 700 feet of each other. The licenses of each of the tug masters was suspended for ten days, beginning Oct. 22, and ending Oct. 31. Capt. Green, of the Williams, says that he did not hear the signal blast of the whistle from the Ferry, and that the two blasts which he blew were supposed to be original signals.

Articles of incorporation of the Canada-Atlantic Transportation Company have been filed in the office of the register of deeds. Similar articles were filed with the secretary of state at St. Paul on Thursday last. It is not known just what the company contemplates by incorporating in the United States, but it is expected that for one thing the company intends to enroll its boats in the United States and probably at Duluth. The company is doing a large business between Duluth and Chicago and Parry Sound, and it is regarded as likely that the company, one of these days, will own its own dock facilites here. The company is purchasing a fleet of boats, the chartered boats of the Menominee line, which have been purchased by the Republic Iron Co., will soon be turned over to the buyers. In the meantime the Canada-Atlantic Co. are looking out for all of the tonnage that they will require next season, and incidentally, figuring on owning their own bottoms in the future.

CHICAGO.

Special Correspondence to The Marine Record.

Capt. R. C. Britain's steamer Crouse was placed in winter quarters at Saugatuck on Sunday.

Grain freights were dull on Monday at 3½ cents on corn to Buffalo, and on Tuesday some chartering was done at 3¼ cents.

Capt. James A. Calbick has purchased the schooner Oak Leaf, for the Pilsen Lumber Co. and himself, from Captain Lyman Feltus.

The Dunham Towing & Wrecking Co. have the tug Welcome on their floating drydock, giving her some new frames and considerable new bottom planking.

The steamers Fremont and Flint and Pere Marquette No. 1, of the Barry Bros.' line, are being overhauled. They are being refitted and are being wired so as to be lighted by electric light.

Cargoes were not plentiful on Wednesday, even at 3¼ cents on corn. Rates were easy, but the general opinion among agents was that no further decline would come at the present juncture.

The steam yacht Brook Hill, 9 tons gross and net, built here, has been given an official number this week and hails from Paducah, Ky. How do they get a steamer's gross and net tonnage to be alike?

Theodore Wilson, a sailor on the Delaware, was seriously injured internally from falling 15 feet down a hatchway while the boat was lying at the Chicago and Alton docks. He is at the county hospital.

The price paid by the Carnegie Steel Co. for the steamer William R. Linn and barge Carrington was $475,000. Capt. C. W. Elphicke, managing owner of the boats, announces that they will be transferred at the close of the present season of navigation.

A keel for a new Bessemer barge was laid Thursday in the plant of the Chicago Ship Building Co., at South Chicago. This makes six vessels under construction at the Calumet yards. The present building operations of the company are the largest in its history.

Capt. C. H. Sinclair, one of the experts of the Salvage Service Association of North America, left here for Grand Marais this week, to superintend the recovery of over $16,000 of copper jettisoned by the steamer Runnells, when ashore near Sable Point.

The well-known little lumber schooner Badger, Capt. Aldrich, owned by parties in Green Bay, was abandoned, waterlogged, off Menominee, on Tuesday. The craft finally stranded and became a total loss, some of her cargo of railroad ties will, no doubt, be picked up.

The Goodrich Trans. Co's. steamer Atlanta, is in Burger & Burger's drydock, at Manitowoc, receiving a new shaft. She will go into service on the east shore as soon as the work is completed. The company's steamer City of Racine is at present running between this port and Grand Haven, and Muskegon.

The Chicago Nautical School is one of the most successful institutions in connection with the practical advancement of the lake marine fraternity. It appears that the instruction by correspondence is also a favorable mode of conveying technical information. There are quite a number taking the course of study from a distance.

The steamer Morris P. Grover arrived here Sunday evening with wheat from Duluth. She experienced some heavy weather coming up Lake Michigan and was leaking slightly. She is unloading her cargo at the Galena elevator. A report in one of the Chicago daily papers Monday that the steamer sank at the dock was entirely unfounded.

The Graham & Morton Transportation Co.'s steamer City of Milwaukee, left here Saturday night for St. Joseph and Benton Harbor, on her last trip this season, and will go into winter quarters after a long and very successful season's work. The company's steamer, City of Louisville, will continue to make daily trips until further notice.

The Carnegie-Oliver interests of Pittsburg have obtained an option on the berths of the American Ship Building Co. on the lakes as they become vacant until May 1, practically shutting out other firms from an opportunity to have ships built. Seven vessels have also been ordered, five of which will be steamers and two barges, the steamers to cost $385,000 each.

The steamer Saugatuck, of the Chicago, Saugatuck & Douglas Transportation Co., left here Tuesday night for Saugatuck on her last trip this season. She will go into winter quarters on her arrival. Another steamer will be purchased or built by the company for next season's service, to take the place of the steamer Bon Ami recently sold by them to H. Singer of Duluth.

Vessel masters of the Ashland lumber fleet are having any amount of trouble from desertions of their seamen. The latter are decamping by the wholesale to the logging camps, where they can get good wages. Many of the men engaged in Chicago, particularly for service on the lumber schooners and barges, are also deserting at the first opportunity, and the captains claim that the men are only shipping for the purpose of getting free transportation to the lumber camps.

The lights on the Ferris wheel and on the dome of the Masonic Temple have been extinguished for the winter. The hydrographic office gives notice of the change, and says that the lights have proved of great benefit to vessels in

making port. The Masonic temple lights are the first picked up by boats coming to Chicago, and to be of adequate service should be exhibited throughout the fall and winter months. Perhaps they are only discontinued so that a kick can be registered.

The steamers Tampa and Uganda, owned by James McBrier, of Erie, have been chartered by Crerar, Clinch & Co., of this city, to carry ore from Escanaba to Lake Erie ports during the remainder of this season and all of next. The Tampa left light for Escanaba Thursday night after having discharged the cargo of wheat which she brought down from Duluth last week. The Tampa furnishes one of the numerous instances that are now multiplying of the good fortune that has come to any vessel owner who had the courage to take hold and hang on to such property. The Tampa went on the rocks in Lake Superior last fall, was bought of the insurance companies by McBrier and repaired at a total cost, including purchase price, of about $55,000, and is well worth $155,000 to-day. She is a better vessel in every respect now than when she went on the rocks. While the rate of freight paid by the iron company which chartered her is not available, it is certainly not a rate that would guarantee anything except a good income for the vessel until the close of the season of 1900.

Preliminary to the beginning of operations by the city for the removal of all obstructions to commerce on the Chicago river, the city council and the committee of twenty-five appointed some time ago by the mayor, took a trip of examination up the north branch. The party was in charge of Alderman Raymer, chairman of the council committee on harbors, viaducts and bridges, and made the trip on a tug. Two other trips will be made later by the council. One of these will be up the south branch, and the other up the Calumet river. It has been discovered that all hope that Congress will pay for the removal of obstructions in the river that were placed there by the city must be abandoned, and it is in the acceptance of such a condition of affairs that the tour of examination is begun. The lowering of the tunnels and the construction of bridges that will admit of the passage of vessels of heavy draft and wide beam are two points on which there appears to be no difference of opinion among marine and commercial interests, but the work and expense of this will have to be borne by the city instead of by the general government.

BUFFALO.

Special Correspondence to The Marine Record.

Maytham & Kelderhouse have bought the tug Peerless, of Lay Bros., Sandusky, for $10,000.

The scow Calcium, 345 tons, built and owned here, has been given an official number this week.

This port shipped nearly 84,000 tons of coal last week, more than half of which went to Chicago, Milwaukee, and Duluth—Superior taking about 13,000 tons each.

The Buffalo Dry Dock Co. is a busy concern these times and likely to be more so in the near future as extensive alterations and improvements are being planned.

Capt. Maytham has purchased from Gilchrist and Fletcher, Alpena, the fine powerful tug Frank W. She will be used in Capt. Maytham's government work and may later do some general towing work.

Capt. I. D. Gibson has resigned the command of the steel steamer Penobscot and Capt. Alex. McFarland has been appointed in his place. The Penobscot has had a great deal of difficulty in keeping off the bottom recently and even then she didn't do it.

Negotiations are on for the purchase of the steel steamer Harlem, recently floated from her stranded position near Isle Royale, by the Thompson Wrecking Co., Port Huron, who bought her from the underwriters. It is further stated that she is to be lengthened when repaired.

A new St. Lawrence river excursion line is contemplated and a fleet of three upper lake steamers may hail from Ogdensburg next summer. The R. & O. Navigation Co. divides a lot of money each season among its stockholders and now others are looking for a similar investment.

The Lehigh Valley line wooden steamers Clyde and Oceanica have been sold to Frank B. Zaird, of the Union Iron Works, at Buffalo, but will not be transferred to their new owner until after the close of navigation. This leaves the line possessed of only one wooden steamer, the Tacoma.

We must confess to some detention of grain laden boats this week. The stoppage has been caused through a lack of cars and not enough Erie canal traffic. In the matter of chartering, owners would do well during the next week or two to insert a clause in their bill of lading covering unwarranted detention, lack of discharging facilities, or something along those lines.

President O'Keefe, of the Longshoremen's Union, is at Tonawanda, N. Y., directing the strike of the union there. There is a possibility that the lumber-carrying trade of the lakes may be tied up if a settlement with the Tonawanda union is not reached. The men want the saloon boss and other abuses wiped out, and also demand that the union be given the contract of unloading all of the lumber vessels that reach Tonawanda.

The steel steamer which the Union Drydock Co. will build for the Lehigh Valley Transportation Co., will be a duplicate of the Buffalo, recently built for the Western Transit Co. Her general hull dimensions will be 403½ feet over all, 50 feet beam, and 25 feet depth of hold. The new steamer will have quadruple expansion engine with three Scotch type boilers. Work will begin soon and the contract calls for delivery early next season.

The new steel steamer Malietoa was dragged from her stranded position on Long Point by one of her own company's steamers, also the tugs Cascade and America, and reached here all right on Tuesday. Why the Malietoa should have fetched up on Long Point instead of reaching this port is not known, nor is her master talking very much about it. Evidently, some novice must have adjusted the new steamer's compasses, as her master knows every foot of the lakes.

Combines, trusts and syndicates are now all the go, but, the question seems how to hold the monopolies together. The shipbuilders' combine is discounted here by the purchase of the late Mills drydock and plant, by underwriters and vessel owners. The tug combine is the next to be attacked, as well here as at Chicago, and I have also heard other ports mentioned as being in line for fairly good competition. There is usually enough outside business at any port to keep a competing tug line at work, and the same can be said of all other industries.

What would be done with all the ice that would jam Niagara river and the lower end of Lake Erie if the proposed dam were built across the river for the purpose of raising the level of the lakes is asked? A local vesselman said that boats would not be able to get in and out of Buffalo by the middle of July if the dam were constructed. There is something wrong with that Wisner suggestion that we have heard about. The first dam wants to be at the source, say, Sault Ste. Marie, the next one across the Straits of Mackinac, another at the mouth of the Detroit river, and then we may begin to consider Niagara before stopping the flow through the St. Lawrence.

The Lakeside Navigation Co. have been unable to handle all the business which came their way part of the season, so popular has the St. Catharines route become. Next season they will be prepared for a big increase. It is their intention to build a new steel vessel after the model of the Lakeside, at a cost of between $35,000 and $40,000. She will be 165 feet long, and thoroughly modern in all appointments. The contract has not been let yet, but estimates are being prepared, and she will likely be built either in Toronto or Hamilton. It is intended to make a vessel capable of going 17 miles per hour, and that she will be ready to go into commission on the 24th of May. The steamer Lincoln will be taken off the route, as she is too small, and the Lakeside will be lengthened 25 feet, making her the same size as the new boat.

A. L. Jaynes, of this port, has a scheme to keep the harbor open in cold weather, and continue the local commerce of the lakes during the winter months. Marine men are not sanguine of any practical results, for while harbors can be kept open with fire tugs of sufficent power, size, and weight, nothing has yet been invented to make it feasible for steamers to plow through immense fields of ice. He is anxious to operate his boat for a term of years on the funds which the Buffalo Council have offered for a suitable ice crusher. His boat has three saws 35 feet long projecting from the bow, and revolving with great rapidity. The inventor claims they will cut three strips of ice fourteen feet thick at one time. The ice that has been cut, upon striking the slanting bow of the boat, is thrown beneath the vessel, and by means of two arms at the stern of the boat, is thrown on each side beneath the main body of ice, making a clear passage, and ridding it of the ice that has been cut. It is said the boat can turn in her own length.

CLEVELAND.

Special Correspondence to The Marine Record.

Considerable coal has been taken at Ohio ports for Lake Michigan at 90 cents; Duluth 50 cents. Buffalo pays 10 cents better to Lake Michigan.

The small steamer Sea Wing, 39 gross and 27 net tons, built at Ashtabula, has been registered at Washington, D.C., this week as hailing from Chicago.

The American Ship Building Co. (consolidated shipyards of the Great Lakes) has just paid another quarterly dividend of 1 3-4 per cent, on preferred stock.

Capt. John Drew, an old time Cleveland vessel man, died in Detroit last week, he was generally well known although he had not been sailing for many years past.

Capt. J. H. Glass has taken a rest, and appointed another master to his schooner Charles Wall. Capt. Glass is not feeling well, he is also getting advanced in years.

Much credit is due Mr. James C. Wallace, general manager of the American Ship Building Co., for his business like aptitude in closing the recent immense deals for lake shipbuilding with the Carnegie interests.

Capt. T. D. Gillson has resigned the command of the steel steamer Penobscot and Capt. Alex. McFarland has been appointed in his place. Capt. McFarland formerly sailed steamers of the Minnesota fleet.

Two or three small blocks of ore to be moved from the head of Lake Superior within the next ten days have been covered at $1.85, but Escanaba is not strong. The vessels offering for Escanaba have been a trifle in excess for the week.

Capt. J. W. Nicholson has been appointed master of the M. M. Drake, vice Capt. Peter C. Bassett. The many friends of Capt. Bassett will wish him soon clear of his dose of pneumonia, and to be again able to haul out to windward.

S. Terano, professor of naval architecture, of Tokio, Japan, was a visitor at the American Ship Building Company's office and plant this week. Prof. Terano is making a tour of shipbuilding plants and considers the lake yards among the best he has seen.

The Porto Rico, built by the Craig Ship Building Co., Toledo, 1,257 gross and 854 net tons, has been awarded an official number and signal letters by the Bureau of Navigation, Treasury Department, this week. Her signal letters are K. P. L. J. and she hails from Toledo.

Colonel Jared A. Smith, Corps of Engineers, U. S. A., opened bids this week for the removal of the wrecked schooner Benson from the harbor at Sandusky. There were but two bids submitted. Charles W. Johnson, of Lewes, Del., bid $7,000. and John Stang, of Lorain, bid $2,500.

The tug Peter Smith was given a general salute from the river tugs on her departure for the coast on Wednesday. The owners of the Smith, the Boutelle Transportation Co., are entering into the coast towing business with some of their former lake tugs and so far they have been quite successful.

The freight market is generally weaker, mainly on account of the inability of coal shippers to get cars in which to move the coal. No reduced rates, however, are as yet announced. Any reduction in ore rates may be at Escanaba, but at this season of the year an increase rather than a reduction is looked for.

M. A. Hanna & Co. brought suit into the common pleas court Friday against the Erie Fire Insurance Co. for $840.40. The firm claim that the pig iron worth that amount which was being transported from Buffalo to Detroit was lost from the schooner L. A. Anderson on Nov. 2 last on account of stress of weaher.

One of the Bessemer officials who visited Conneaut last week gave out the information that the Bessemer company expected to expend a million and a half dollars at that port this winter. Additional dockage is to be built, new slip dredged and new equipment erected. Among the new machines to be built it is said that the company contemplates the building of six King hoists.

It looks now as if anyone who wanted to charter tonnage next season would have to apply to the Carnegie-Rockefeller syndicate. These interests have secured almost everything in sight and are looking for more, even in excess of their own actual requirements. There is space for a keel or two to be laid outside of the above interests, if the material could be procured. The chartering, carrying and shipbuilding combine is singularly complex in its simplicity of cornering.

A dredging crew tried to remove an old hull of a boat that has been found at the end of the west pier. A good many of the vesselmen who have been in the city any length of time believe it is the old boat L. H. Cotton, which burned in 1869. The vessel was leaving the port with a cargo of oil, and as she was nearing the breakwater a disaster occurred which ended in an explosion, and then the boat burned to the water's edge and sank. She was outside of the channel and hence has never been moved. The settlement of sediment at the mouth of the river has almost covered the old hull up. The dredgers were trying to get down to a depth of 21 feet when they came upon the wreck and are now blasting in the hope of removing the obstruction.

The American Steel & Wire Co., purchased the steamer W. H. Gilbert, this week from the Empire Transportation Co., also the two boats for which A. B. Wolvin contracted with the American Ship Building Co., a few weeks ago. These two boats are of the Welland canal size, and will be used for the present in carrying ore from Marquette to Cleveland. The company has two other boats under consideration. With the boats already secured the American Steel & Wire Co. will have a fleet a twelve ships next season, capable of carrying about 2,200,000 tons of iron ore. The barges which the Ameriean Ship Building Co. will build for the Carnegies will be 400 feet keel, 49 feet beam and 27 feet deep.

Capt. James Davidson credits the Rockefeller interests with holding up next season's freight rates. "The entire vessel interests of the lakes are indebted to them for preserving rates and putting them up to a living figure. The Carnegie's and the Illinois Steel Co. made an organized effort to force rates down to a low figure. The Rockefellers decided to make the steel men share some of the profits of their business and deliberately offered to charter at $1.25 in the face of the fact that offers of tonnage had already been made at $1. This immediately started both interests after all the tonnage possible to cover and thanks to the nerve of the Rockefellers, nearly 75 per cent. of all the tonnage on the lakes is now covered at a price that will make money for every one."

The American Ship Windlass Co., of Providence, R. I., carry a large stock of engines for windlasses, capstans and winches, and are therefore generally prepared to furnish steam windlasses, steam capstans and steam winches at reasonable notice. Their stock of hand capstans is probably the largest that can be found anywhere in the world in one establishment.

LAKE HURON LEVELS.

The attention of Alfred J. Henry, chief division of records and meteorological data U. S. Department of Agriculture—Weather Bureau, has been called to the fact that in 1885 and 1886 the slope between Lake Huron and Lake Erie was greater than at any other time covered by the records, and that immediately following this period the difference in levels between the two lakes began to diminish. Mr. George Y. Wisner, member of the Board on Deep Waterways, who communicated the information, expresses the opinion that it seems probable that the excessive slopes existing in 1885-86 were the initial causes which led to the increase in cross section recently found at the head of the St. Clair river. The further opinion is expressed that the levels of Lake Huron, Lake Michigan, and Lake Erie have to a certain extent been affected by the deepening of connecting waterways and outlets. This, together with the increase in cross section at the head of St. Clair river, has apparently permanently lowered the level of Lake Huron and Lake Michigan something over a foot, and incidentally St. Mary's river below the rapids a similar amount.

These conclusions seem to be confirmed by the rainfall records.

Summarizing the foregoing Chief Henry says that it seems possible to indicate the level of the lakes, approximately at least, by closely observing the precipitation in the various watersheds, especially the amount of snow and the manner of its disappearance. All inferences as to the probable effect of precipitation on lake levels must be contingent, however, upon the maintenance of a constant cross section and slope in the present connecting channels.

WHAT BECOMES OF OLD SHIPS.

In accounting for the old-time ships, it must be remembered that many have not disappeared, but have merely changed their names. Thus Rear-Admiral Preble, in a recently published essay on steam navigation, says that few people suspect that at least three of the old favorites are still running from New York to Europe, for how could they recognize the Russia enlarged to nearly twice her former size, in the Waesland; the Java in the Zealand, or the Algeria, which disappeared so quietly as hardly to be missed in the Pennlands? And there are others. The old Baltic, of the White Star line, once a familiar vessel to New Yorkers, was purchased by the Netherlands Co., and renamed the Veendam. As such she was lost at sea in February, 1898, her passengers being rescued by the St. Louis and brought to this port.

In the steamships Spaarndam and Amerika who would now recognize the old White Star liners Arabic and Celtic? The old steamships British Crown, British King and British Empire are now respectively the Amsterdam, Werkendam and Rotterdam. The present Maasdam was the old White Star liner Republic.

To what other uses old ships may come is shown in a recent despatch to Lloyds, announcing that the Anchor line steamship Circassia and Devonia, have just been sold to a German firm. The vessels are to be broken up, and their engines rehabilitated and made ready for installment in some newer craft.

A vessel that has had an exciting career is the old steamship Persian Monarch. Wrecked on the Long Island coast, the vessel was bought by an American company and converted into a sailing ship, and as such is now one of the biggest sailing ships afloat. Her new name is the May Flint. Since she ended her steam career the vessel has been on fire, dismasted and sunk.

The steamship Dessoug, the vessel which transported the Obelisk from Egypt to New York, is now doing duty as a coal barge. In the same humble calling many ships of the old navy are now engaged.

BRITISH SHIPBUILDING.

From the returns compiled by Lloyd's Register of Shipping, it appears that, excluding warships, there were 558 vessels of 1,347,549 tons gross under construction in the United Kingdom at the close of the quarter ended 30th September, 1899.

Of the vessels under construction in the United Kingdom at the end of September, 470 of 1,063,871 tons are under the supervision of the Suveyors of Lloyd's Register. In addition, 52 vessels of 157,050 tons are building abroad with a view to classification. The total building at the present time under the supervision of Lloyd's Register is, thus, 522 vessels of 1,220,921 tons. Details of this total follow:

	No.	Gross Tonnage.
Building in United Kingdom, for account, for sale, etc.	400	903,464
Building in United Kingdom for foreign and colonial account	70	160,407
Building abroad	52	157,050
Total building on 30th September for classification in Lloyd's Register Book.	522	1,220,921

WARSHIPS UNDER CONSTRUCTION IN THE UNITED KINGDOM.

In order to afford a comprehensive view of the shipbuilding in progress throughout the United Kingdom, the following statement of the war vessels which are at present under construction has been compiled. For this statement, it has been assumed that a vessel may be regarded as "under construction" from the commencement of the laying of her keel to the time when she is ready for her steam trials. Of course, when this latter stage is reached, the guns have usually still to be placed on board, and the vessel to be fitted out, before she is ready to be commissioned; but she is, nevertheless, structurally complete.

Nationality.	Description.	At Royal Dock Yards. Yard.	No.	Displacement. Tons.	At Private Yards. Yards.	No.	Displacement. Tons.	Total. No.	Total. Displacement. Tons.
British	First-class battle ships	Chatham	2	30,000	Barrow	1	12,950	13	184,850
		Devonport	2	30,000	Birkenhead	2	26,950		
		Portsmouth	2	30,000	Blackwall	3	40,950		
					Jarrow	1	14,000		
	First-class armored cruisers	Pembroke	1	14,100	Barrow	2	24,000	9	110,000
					Clydebank	2	24,000		
					Glasgow	1	9,800		
					Govan	3	38,100		
	First-class protected cruiser	Pembroke	1	11,000				1	11,000
	Second-class protected cruiser				Glasgow	1	5,600	1	5,600
	Third-class protected cruiser	Chatham	1	2,200				1	2,200
	Sloops	Sheerness	4	3,920	Birkenhead	2	1,960	6	5,880
	Gunboats				Liverpool	2	1,400	2	1,400
	Torpedo boat destroyers				Birkenhead (2), Chiswick (1), Clydebank (3), Govan (2), Hebburn (4), Hull (1), Jarrow (4), Sunderland (1)	18	5,720	18	5,720
	Royal yacht	Pembroke	1	4,700				1	4,700
	Total		14	125,920		38	205,430	52	331,350
Foreign or not stated	Armored vessels				Barrow	1	15,200	7	72,740
					Clydebank	1	15,200		
					Elswick	5	42,340		
	Protected cruiser				Low Walker	1	4,170	1	4,170
	Torpedo boat destroyers				Birkenhead	1	300	9	2,920
					Chiswick	1	300		
					Clydebank	3	1,020		
					Elswick	2	700		
					Poplar	2	600		
	Torpedo boats				Poplar	11	1,500	11	1,500
	River gunboats				Chiswick	2	300	2	300
	Total					30	81,630	30	81,630
British and Foreign	Total		14	125,920		68	287,060	82	412,980

SIZE OF VESSELS UNDER CONSTRUCTION.

(Warships excluded)

The following table shows the vessels under construction in the United Kingdom classified according to gross tonnage:

Tonnage.	Number. Steam.	Sail.
*Under 50 tons	...	5
*50 to 99 tons	6	3
100 to 199 tons	119	7
200 to 499 tons	72	8
500 to 999 tons	33	1
1,000 to 1,999 tons	63	1
2,000 to 2,999 tons	32	...
3,000 to 3,999 tons	79	...
4,000 to 4,999 tons	38	...
5,000 to 5,999 tons	40	...
6,000 to 6,999 tons	16	...
7,000 to 7,999 tons	10	...
8,000 to 8,999 tons	2	...
9,000 to 9,999 tons	7	...
10,000 tons and above	16	...
Total	533	25

*Vessels of less than 100 tons are not included in Lloyd's Register shipbuilding returns unless they are intended to be classed in the society's register book.

AN OLD TIME FIGURE-HEAD.

Old salt water sailors sigh as they wander around these days, and note the disappearance of the famous old figurehead, which used to be the delight of every clipper ship's crew. They were huge wooden images of almost everything imaginable, but the female form predominated. Many figureheads were to represent the fair one after whom the ship was named, and there is an old sea yarn about a sailor who fell in love with the handsome wooden female, which adorned his ship. He used to slip down the "dolphin striker" and hang on there, while the ship bowed and lurched, talking love to the figurehead. Finally, according to forecastle tradition, the figure sneezed, and the sailor, who was known as "Lovely Mike," because he was the ugliest man that ever set foot on a ship's deck, nearly fell into the sea. He recovered his senses and said, "Did you speak?" "No, I didn't speak," returned the figure. "I just sneezed to attract your attention. You're known as 'Lovely Mike,' ain't you? You're a married man, ain't you? and your wife has to take in washin' both when you're at home and when you're away, because she can never get a cent out of you. Mr. Farmer, just climb back to the forecastle and don't bother any more about me." This rather curt interview is alleged to have worked a marked change in Mike, and when he got home he astonished his wife by giving her a couple of dollars.

REAR-ADMIRAL George W. Melville, Chief Engineer of the United States Navy, the value of whose work in the supervision of the building of our new vessels has been recognized, stated in his address at "Institute Day," of the Franklin Institute, Philadelphia, on Saturday last, discussing "The Warship as Combining in Itself the Highest Results of Skill, Ingenuity and Scientific Knowledge," was therefore given close attention. Admiral Melville showed that the modern warship is not the result of happy chance, but of logical growth and the outcome of the proper application in all departments of strictly scientific principles. A scientific knowledge advanced, every detail of the warship kept pace with this advance, till now, in the battleship, from the most ponderous moving masses to the delicate controlling mechanism of the torpedoes—which the Admiral said had the appearance of human agency—we have the highest embodiment of engineering skill and knowledge. The warship is thus the complete fruition and triumph of the engineering science.

THE PHILIPPINE ARCHIPELAGO—OUR TRADE WITH OUR NEW POSSESSIONS IN THE ORIENT.

As the MARINE RECORD goes into the uttermost parts of the country, and especially into the hands of those connected with and interested in the increase and enlargement of the scope and business of the American merchant marine and its carrying capacity, not only all over this country, on the Great Lakes and the mighty rivers that, like great arteries, traverse its surface, and the coast-wise trade from port to port along our well-known Atlantic and Pacific coasts, whose every inlet, head-land and promontory are as familiar to the American skipper as are the street corners of our city to us, but on the high seas, wherever the tide ebbs and flows and ships will float, propelled by steam and sail, under the American flag.

And as nothing has appeared, at least recently, in the columns of the MARINE RECORD, in regard to our trade with our new colonial possessions, particularly the Philippine Islands, I take the liberty to give a partial account of our trade with those islands in manila hemp, one of the products of that wonderful archipelago, and to the American people almost unknown until within the last 18 months, when the south Pacific squadron, under Dewey, celebrated May-day in Manila Bay, showing the amount thereof that has been recently brought therefrom to the United States.

THE MANILA TRADE.

According to the New York Cordage Trade Journal for October, we find that there was imported to the United States from those islands, of manila hemp alone, during the year 1897, 321,424 bales; that, by reason of the war with Spain and Dewey's escapade, it fell off in the year 1898 to 259,510 bales, while we have received therefrom this year up to the first day of October, 267,820, and at that time there was on ship board, on the way to American ports, 88,805 bales; and there were then in process of loading, 31,000, making 387,625 bales so far this year, received, on the way, and being put on ship board, that will reach here long before the end of this year, with a prospect of more than enough to bring it up to more than 400,000 this year, if the producer can get to port one-half of that which is contracted to be delivered this month. If not, large shipments will be received here in January next. All of which comes to us direct from our new possessions, and of this we do not take into consideration the large amounts that go from there to other countries, which goes to show that there has been a very large increase of trade in that one article this year over that of 1897, when, we are told, all was peace and serenity. Though the quiet of those people has been very much disturbed this year, by reason of the fact that a portion of the Tagals, under Aguinaldo, are fighting their best friends (and for what they know not) while others are working, producing and selling more of their product than they did in 1897, if not more than in any one year ever before. I understand that, in addition to what we have received, over 250,000 bales have been shipped from those islands to Europe so far this year.

There is no other country where the manila hemp is or ever has been produced to any great extent, or with such apparent success, and as we are the greatest proportional consumers, and now being the owners of and soon to be in peaceable control of that country, will be, as we are of wheat and many other things, the greatest producers of that wonderful and most useful material, we can increase the output to any extent that may be desired, as, figuratively speaking, there is no limit to its production, and we can carry it in the shape of raw material in our own ships to the States and manufacture it into all the various kinds of manufactured articles that it is susceptible of being used for and the market may demand.

THE COAST-WISE TRADE.

In this connection let me say that I am in favor of extending the rules and laws that now apply to American shipping that is known as the coast-wise trade, to all American bottoms plying between the outlying territory in America and the different colonial possessions, and between them and the home government. This would give American bottoms a preference over those of the foreign in that trade, the same that they now have on the lakes, the Atlantic and Pacific, and their estuary coast frontage in the American States.

TONNAGE DUES ON FOREIGN BOTTOMS.

If it should be deemed necessary, to give encouragement required to expedite the growth of the merchant marine to such an extent that they could take care of our rapidly increasing business on the high seas, I would put a tonnage duty on all foreign bottoms entering our ports, especially those laden with the products of any portion of our home or outlying possessions, similar to that which was done during the administration of President Washington, and later on in the early years of the present century, which did produce a very rapid growth of our merchant marine at that time and brought into active use much of our dormant capital.

By so doing, I think that we would soon be carrying all the products of one portion of our home and colonial possessions or ports to another, or to and from home and colonial ports.

THE JUTE TRADE.

The Cordage Trade Journal also states that we have imported this year so far, from Calcutta, 321,881 bales of jute of different varieties, being a little less than we imported of the same article from the same port last year. Caused in part by the increase of manila obtained from the Philippines this year, which is, as I understand, to be preferred. And I understand that the production of jute in the Philippines so far has been somewhat limited, but that it can, in fact, be produced in the Philippines as well as in the region round about Calcutta.

AN EFFORT TO INCREASE THE TRADE WITH MANILA.

Some of the importers and manufacturers of New York, Boston, San Francisco and other cities, have already commenced to take advantage of the opportunities that they see are offered, not only in the manila, but other products of those islands, and in a great measure interchangeable with the products of the home country, especially since those islands (the most fruitful portion of the earth) were conveyed to us by Spain, by sending their agents over there to establish agencies in different parts of those islands, for the purpose of getting, to some extent at least, an inside track in the manila as well as other branches of trade that have heretofore been under the control of the Spanish and other European capitalists, which, by reason of the change of national sovereignty, has already given the business quite an impetus, thus demonstrating the fact that wherever the American goes the business of the country improves and redounds to the benefit of our people and those living where he goes, especially where the American knows that he is under the protection of his own government, as is the case in the Philippines since they have become a dependency and colonial possession of the United States.

With this percentage of increase in this one year, in one branch of the products of those islands over two years ago, with the return of peace and tranquility, which must be the condition of things in a short time, can we estimate as to the amount of the trade and general interchange of commodities that will spring up in a few short years, and continue between them and the home country, as has always been and still exists between the several States of the union.

In conclusion, I will say, it is my opinion that by extending the coast-wise rules, as above suggested, it would produce a greater impetus to the growth of all classes of the American merchant marine than to give a special bounty to the extra large, fast-going and very expensive ships, calculated more for passenger and mail carriers, than for freighters.

S. C. WHEELER.

Sandusky, O., Oct. 18, 1899.

HYDROGRAPHIC OFFICE NOTICES.

Lake Erie—Sunken obstruction westward of Fairport.—Capt. Dan McFayden, of barge 127, reports that October 8, 1899, in tow of steamer Thomas Wilson, from Cleveland to Fairport, Ohio, when about 3 miles west of Fairport pierhead light, and about 2 miles from shore, the barge, drawing 17 feet 6 inches, struck a submerged wreck supposed to be a dredge sunk in that locality some time ago.

Lake Michigan—Strait of Mackinac—Reported shoal southeastward of Grays' Reef lightvessel.—Capt. D. H. Mallory, of the steamer Pathfinder, reports that having just passed Grays' Reef lightvessel, bound to Chicago, the Pathfinder, drawing 18½ feet of water, touched bottom in a position ½ to ¾ miles S. 22° 30′ E. true (S.S.E. mag.) from Grays Reef lightvessel. There was no pounding, just a rubbing over a smooth surface. Afterwards, in the dry dock, could be seen where the ship had rubbed, 3 feet wide two-thirds of her length.

VESSELS CLASSED.

Vessels classed and rated by the American Bureau of Shipping, New York, in the "Record of American and Foreign Shipping:" Ship, McLaurin; schooner, Lizzie J. Parker; schooner, Philippine; bark, Auburndale; British schooner, Ellen Shafner; British topsail schooner, Mary Hendry.

THE STARS AND STRIPES.

The first American flag of the independent States dates from June 14, 1777, when the Congress of Philadelphia, nearly a year after the Declaration of Independence, adopted the following:

"That the flag of the 13 United States be 13 stripes, alternate red and white, and that the union be 13 stars in a blue field, representing a new constellation."

The popular interpretation of the colors was that red signifies war, if necessary; white, arbitration, intelligence, justice; blue, industry and economy. The 13 stripes suggest the 13 colonies united in one nation for common defense and mutual assistance. The Stars and Stripes were first saluted by a foreign naval power—thus recognizing the independence of the United States—on Feb. 14, 1778. This occurred in French waters, when Admiral La Motte Piquet, of the French navy, returned the salute of Lieut. Jones.

The admission into the Union as States of Vermont, March 4, 1791, and of Kentucky, June 1, 1792, caused a change of the number of stars in the blue field from 13 to 15, and in this shape the flag served from May 1, 1794, until July 4, 1818, for 24 years. March 25, 1818, the Congress passed an act "To establish the flag of the United States," which provided "That on the admission of every new State into the Union one star be added to the union of the flag, and that such addition shall take effect on the Fourth of July next succeeding such admission."

Thus the flag contained 15 stars in 1818 for the last time. After Kentucky, the States of Tennessee, Ohio, Louisiana, Indiana and Mississippi had been admitted in the order named, and consequently on July 4, 1818, there were 20 stars in the flag. In 1819 there were 21 stars, Illinois having been admitted Dec. 3, 1818. In 1820 there were 23 stars; in 1822, 24; in 1836, 25; in 1837, 26; in 1845, 27; in 1846, 28; in 1847, 29; in 1848, 30; in 1851, 31; in 1858, 32; in 1859, 34; in 1863, 35; in 1865, 36; in 1867, 37; in 1877, 38: in 1890, 43; in 1891, 44, and since July 4, 1896, the blue field of the red, white and blue shows 45 stars, Utah having been admitted Jan. 4 of that year. The Territories of Alaska, Arizona, District of Columbia, Indian, New Mexico and Oklahoma are not represented in the "Union of States."

EXPENSE OF TARGET PRACTICE.

A single big gun of the many now being put in place for the protection of the sea coasts costs a snug fortune. Some interesting figures on this subject have just been submitted to Gen. Wilson, and will be by him transmitted to Congress.

A 12-inch breech-loading rifle, with its disappearing carriage, costs $141,000; a 10-inch, $99,250, and an 8-inch, $72,000. The figures show that modern high-powered guns cost immense sums of money, and the cost of firing them is proportionately as great. The report of experts who have inspected these guns and the devices for securing an accurate aim show that there is an immense saving effected by possessing modern range and position-finding devices.

"The demoralizing effect of a hit as compared to a miss," said one of these reports, "cannot be reduced to a money value, but it costs big money to shoot a big gun and then miss the mark. Take for instance the 12-inch gun. To miss the mark is simply to throw away $561.70. With the 10-inch gun the loss is $322.40, and with the 8-inch rifle it is $164.65."

Two immense stone docks are now building, at Boston and Portsmouth, and a new timber dock at Mare Island, and Oct. 21 bids were opened for the construction of a fourth new dock for the League Island Yard, thus giving nearly every important port from Maine down to Texas ample docking facilities for the most powerful war ships. They will be at Portsmouth, Boston, three at New York, two at League Island, one at Norfolk, two commercial docks at Newport News, where war ships could be accommodated, one at Port Royal, a floating dock at Key West, and a large masonry dock at Algiers, La. As it has been, the docking facilities of the country were far inadequate to the growth of the Navy, and not until the end of the Spanish war was there a basin available in which the heaviest class battleship could be placed. There are now but two docks where these ships can with safety be taken from the water, and both are widely separated and on different stations. That at New York, after many failures, is at last strong and safe, and the other at Puget Sound seems to answer the requirements of vessels on the Pacific coast. The dock at Port Royal was built and completed before either, but lack of water over the sills rendered it useless for heavy ships until within the last month, when the dredging work was completed.

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CLEVELAND, O., OCTOBER 26, 1899.

THE question of trimming ore cargoes is up again. It is said that the saving to the Bessemer and whaleback fleets alone, through not trimming, amounts to $200,000 annually.

NEXT year will see Buffalo's prestige as an ore-receiving port increase greatly, about 10 per cent. of the ore for which contracts recently have been made for movement next year will go to that port.

THE new life-saving station at Grand Marais, located on the west side of the west pier at the harbor entrance, is nearing completion, and if the weather does not hinder the contractor he will finish the same in time to have it ready for commission for the fall gales of Lake Superior.

THE question of lake levels and how to maintain them is still to the fore and must engage the attention of all persons concerned in the best interests of lake navigation. Several important communications on this subject are being prepared for future publication in THE MARINE RECORD.

BALTIMORE, Newport News, Philadelphia, Chester and Wilmington, also San Francisco and other Pacific ports, have forty vessels now building. The gross tonnage will amount to over 100,000 tons. The new tonnage at lake shipyards is now placed at 30 vessels, having a capacity of 150,000 tons, and an estimated valuation of over $8,000,000.

GENERAL WILSON, Chief of Engineers, U. S. A., has made public his annual report. It contains among other matters of interest, the estimates made by the local government engineers throughout the country of the amounts of money required to complete river and harbor improvements under their charge, and the sums which, in their opinion, should be expended on them during the next fiscal year, which begins July 1, 1900. These figures and recommendations are submitted to Congress, and form the basis for legislative action when appropriations are made.

REAR-ADMIRAL George W. Melville, U. S. N., is a marine engineer or nothing, he may also be an engine fitter as well as driver, and a stationary engineer, but he is not a practical shipbuilder, therefore he is not in a position to discuss the matter of "how to build our warships." Engineer Melville is all right, but it can not be exactly authenticated as he puts it, that "the warship is the complete fruition and triumph of engineering science." As a matter of fact and practice it is neither, furthermore, Engineer Melville, however good a mechanic he may have been, should keep within the bounds of his own craft or workmanship. It is possible, that even with so old a man as Mr. Melville mechanical mistakes might occur. Let us say, that designing engines is not fighting the ship, or the thousand and one other things that happen in warship action and construction.

THE YACHT RACE.

From the year 1851 up to the present, is quite a stretch of time for the Britishers to prove that they know something or anything about yacht building, handling or sailing.

It can be said, however, that the recent contest proved that there is not much difference in the sailing qualities of the Columbia and Shamrock. But whatever difference there is in the two boats, rests with the Columbia. She is beautifully designed, handsome in her lines and is worthy of the success she has achieved.

Americans, or quite a number of them at least, would not have grieved if the cup had been lifted by Sir Thomas Lipton on a close contest, to be won back again on a future occasion. But Sir Thomas will be here again to make another effort for success. He has proved such a thorough yachtsman and sportsman that he will receive a generous reception and a hearty wish for good luck to favor him. The only setback that he appeared to notice was the unavoidable absence of the designer of his yacht, and this feature might have been the means of his losing the race, or at least a couple of heats. Both yachts were excellently matched and elegantly handled on a fair field, with no favor shown to either, and all must conclude that the best won.

In the future as in the past, Americans have confidence in their ability to meet all contestants. Our seamen are trained to perfection, and the art of building yachts is a triumph of skill which includes the construction of all varieties of sea craft.

For the present, therefore, the cup remains in the United States, while our best wishes go with Sir Thomas Lipton, or any other worthy competitor who may act as he has done throughout the contest.

The Shamrock is a good yacht, the Columbia is a better one.

FREIGHT AND CARGO INSURANCE.

It has been generally considered that there was no considerable profit for the underwriter insuring freight and cargo. The assertion was made a short time ago in the office of quite a large vessel owning firm that the mite paid for freight or cargo insurance was inconsequential. We now have the following from Chicago:

The underwriters are making a harvest this season by the grain insurance from all the upper lake ports. There has not been a serious loss on grain cargoes since the opening of navigation, and while the accounts may be evened up by the heavy losses in the remaining six weeks of the season, their books now show a big balance of profit. The companies are now taking in nearly $1,000 a week in excess insurance for grain aboard vessels below the standard rating. This excess insurance is generally paid by the vessel owners and is based on the greater risk incurred where boats are not up to the standard rating. Thus far this season the excess insurance has proved extremely profitable to the underwriters, for the below grade vessels have come out as well as those of the highest class. All of the companies doing lake business are in a pool in grain insurance, and the good things in the trade are being equally divided among them. Last season at this time the losses on grain cargoes had amounted to a large figure, and at the close of the season nearly all of them had to charge up a good loss account on the business.

SUCCESSFUL WRECKING WORK.

A special from Iroquois, Ont., to the RECORD says that the steamer Hamilton, which has been ashore in Iroquois Rapids since Wednesday last, has been successfully floated. This has been a difficult piece of work, owing to the swift current and dangerous shoals, and has been accomplished by the Calvin Co.'s wrecking tugs Reginald, Chieftain, Parthia and Johnston, with a large force of skilled workers under the command of Capt. Thomas O'Brien. Much credit is due the Calvin Co. for the excellently planned and well executed work.

LAKE LEVELS.

In his paper read before the Cleveland Chamber of Commerce, George Y. Wisner gave special attention to the lower lake levels, and stated that the government reports calling the channel at the Limekilns a 20-foot one when it was seldom above 18 feet, was not the result of dishonesty on the part of contractors or a dishonest report on the waterway, but evidence that an error has been made in the taking and recording of figures made in the surveys.

LAKE FREIGHTS.

Ore rates hold steady at $1.75 from the head of Lake Superior, $1.60 from Marquette to Ohio ports and $1.70 to Buffalo, and $1.35 from Escanaba. Tonnage is in fair demand, but no change in rates will be made this week unless there is a marked improvement in the grain trade. Coal cargoes are no more plentiful than they have been for the past few weeks and many vessels that usually carry coal are forced to go up light. Coal shipments are likely to drag until the close of navigation. During the past week further business was done at $1.25 from the head of the lake, $1.10 and $1.15 from Marquette, and $1 from Escanaba for next season. The Carnegie-Oliver fleet will easily carry over two million tons next season. The Rockefeller interest is now credited with vessel capacity, either of its own or chartered, considerably in excess of 6,000,000 tons.

Chicago grain rates dropped to 3¼ cents on corn this week with brisk chartering at the lower figure. Duluth is still firm at 4¾ cents on wheat to Buffalo.

The coal rate, although strong, remains unchanged at $1, Buffalo to Lake Michigan points, and fifty cents to Lake Superior. There is no hope of a change in the latter rate, but some of the vesselmen say that another advance in coal rates will be seen soon. There is one thing to block this. The supply of coal has been shut off within the last few days and the shippers, who were hitherto well supplied, have been without coal for several days, hence are taking no boats. The general rates from Buffalo are: Chicago, $1; Duluth, 60 cents; Milwaukee, $1; Racine, $1.10; Parry Sound, contract; Sault, 85 cents; Lake Linden, 80 cents; Green Bay, $1; Menominee, $1; Portage, 80 cents; Toledo, 50 cents; Sarnia, 70 cents.

The Black Diamond says: "The reports of a hard coal famine in the Northwest, as coming from Cleveland, are absurd, and are started by ship owners who want the freight rates on west-bound coal advanced. Up to now there have been 35,000 tons more anthracite received into Lake Superior than all last season, and there are fifty days of navigation still to come. Receipts of soft coal have been about 100,000 tons less than for all last year, but soft coal cuts no figure in the question of fuel. There will be a much larger tonnage of domestic fuel needed the coming year than last, on account of better times, and from the fact that docks were clear at the beginning of the season. By reason of the higher cost of hard coal, wood will supply a large share of this. At Duluth and Mississippi sawmill firms are finding ready sales for all their refuse, even bark, at advanced prices, and many thousands of men will be employed in cutting cordwood all winter."

The rates on lumber remain firm at $4.50, but it is said that a strenuous effort is being made to get the other half dollar, after which the vessel owners have been striving. Most of the lumber fleet is either at the head of the lakes or in ports on Lake Erie trying to get unloaded, or are on the way back up the lakes after the last cargo of the season. The owners of these hookers are "bulling" the freights in the hope of securing $5.00 for the last load. So far their effort has failed.

TO FACILITATE SHIPMENTS.

The Ann Arbor railroad has inaugurated a novel scheme at Menominee, Wis., for handling lumber shipments. A loading dock has been built and some scows leased. These scows are towed to any of the mills where lumber awaits shipment over the route, loaded and retowed to the loading dock, where it is put on cars. This plan is meeting with great satisfaction. It insures dispatch and affords shippers advantages.

DAM ACROSS NIAGARA.

In speaking of the project to build a dam across Niagara river to raise the level of Lake Erie and other bodies of water above it is pronounced impracticable by a prominent Buffalo vessel owner. Said he:

"If the natural obstruction extending from Horseshoe reef to quite a distance in the river had not been removed there would be less trouble about the level of Lake Erie and adjacent bodies of water. In order to raise the level of the lakes above Lake Erie it would be necessary to raise Lake Erie five or six feet and that would flood the territory around Buffalo. A dam in Niagara river is impracticable because the rush of water in the lock or locks that would have to be built would be so great it could not be used. The natural obstruction should have been left and a lock built at Black Rock with a reasonable drop. That would have kept the level of the lake to a sufficient height.

CHANGES IN LAKE TRANSPORTATION.

The advent of the steel steamer Angeline, the new ore carrier just put into the Marquette trade by the Presque Isle Transportation Co., offers an opportunity for some interesting comparisons showing the wonderful development which has been made in lake freighting from this port in the past 50 years, says a Marquette correspondent.

The Angeline is the biggest boat which ever entered Marquette harbor, and has only three superiors in point of tonnage in the entire steam fleet of the lakes. She can carry nearly 7,000 tons, though on her maiden trip she took only 6,100 tons. The ore carrying record from Lake Superior is 7,023 gross tons, held by the schooner John A. Roebling.

The first ore which was ever shipped on Lake Superior went from here about 1848, a year before the town was founded, but there are no records which show the quantity or the boat which carried it. As the "Soo" canal was at that time not even thought of, the ore was portaged around the rapids at Sault Ste. Marie and placed in another vessel for shipment to Detroit, whence it was sent to Jackson, Mich.

After the "Soo" canal was cut through in 1855, ore could be carried direct to its destination without change of boat, but it was not till the civil war began and gave the price of iron such an impetus that any considerable quantity of ore was sent down. The vessels which engaged in the business in those days were small, and 200 or 300 tons of ore was a cargo for most of them.

While the vessels of those days carried cargoes which seem insignificant compared with those taken out of here now, their remuneration was something munificent, even when compared with the present high freights. The current rate from Marquette to Lake Erie ports is $1.55 a ton, the highest figure for several years, but in those days $4, $5 and $6 was paid, and one season as high as $8 a ton freight was given to vessels which loaded here in the fall and made the first trip down in the spring. The boats engaged in the trade gradually increased in size till the first 800-ton boat came. The day she appeared in harbor on her maiden trip the entire town took a holiday. The wiseacres shook their heads and said such a big boat could never make any money. She is still on the lakes, but she is only a "hooker" now and is unprofitable on account of her small size except in the best of seasons.

The lake fleet has at present 25 boats of the 400 foot, 4,000 ton class, the tonnage being their measured tonnage and not their carrying capacity, which is roughly half as much again as the measured tonnage. Twenty-three of these boats are steamers.

DULUTH FREIGHT REPORT.

One of the leading vessel agencies at the head of the lakes makes this summary of the grain freight market: "We are offered for vessels to load here, on the opening of navigation in 1900 3½ cents on wheat to Buffalo. This is not as good a rate as was paid some time ago when the market was somewhat stronger than it is at present, but from the fact that shippers are still trying to engage tonnage for next year it would seem that they look for a heavy grain movement in spring. Inquiry for steel tonnage to move cargoes late in November and hold the grain in Buffalo all winter has been a feature of the market for several days past. Some business of this kind was done at 5½ cents. Requests for current tonnage come almost exclusively from coarse grain shippers. Wheat shippers still complain of the absence of export demand, but the supply of vessels under contract to carry grain at low rates is now practically exhausted and shippers must hereafter enter the market when they desire ships. More than 8,000,000 bushels of wheat are in store here. If a demand for grain should suddenly arise during the next fortnight the market would be in a splendid position to furnish it quickly. The wheat is owned by the elevator companies and it will require a considerable premium to persuade them to part with it.

A COLLISION INQUIRY.

The investigation to fix the responsibility for the sinking of the steamer Peerless in Duluth harbor is now on at Duluth and the masters of the tugs Industry and Buffalo are trying to throw the blame on the Mystic, which was towing a raft of logs. The raft is said to have blocked the southerly draw of the Northern Pacific bridge. The lawyers for the latter tug answer that the Mystic had passed the Peerless by 500 feet when the collision occurred, and, therefore, she could not have been the cause of the accident.

NEW BREAKWATER CONSTRUCTION.

There will shortly be a meeting of district officers of the Corps of Engineers, U. S. A., for a consideration of and relative to new and improved forms, methods, etc., of breakwater construction at lake ports.

The board will consist of Major T. W. Symons, of Buffalo; Major C. B. Sears, of Duluth, and Colonel J. A. Smith, of Cleveland.

New breakwaters are to be constructed at Conneaut, Fairport and Lorain. Colonel Smith has mapped out a plan which he wishes to try on these breakwaters. He hopes to make a stone foundation for the structure and have this come up to the surface of the water, being nothing more than a pyramid of stone, the bottom of which will be quite extensive. At the surface of the water the general effect will be changed very slightly. After the substructure has been allowed to settle and become almost as solid as a mass of concrete a superstructure will be put on, which will be partly of cement, so as to give the solidity of one great block. It is proposed to put this sort of breakwater along the east side of the harbor, allowing the west side to remain as it has been—of both timber and masonry.

There are two things expected of this new form of breakwater and should it succeed it will be the harbor defense of the future. In the first place it is so constructed as to be permanent. The stone, of course, will be practically everlasting and the shape in which it will be built will be enough to assure that nothing will ever carry it away or tear it down. Then the sides will be sloping, and it is thought that this will so retard the progress of the waves that no cross tide, at the mouth of the harbor, will be felt. The engineers, it is expected, will make a recommendation to the War Department, and its sanction requested in future breakwater work and construction.

LETTERS AT DETROIT MARINE POST OFFICE.

OCTOBER 25th, 1899.

To get any of these letters, addressees or their authorized agents will apply at the general delivery window or write to the postmaster at Detroit, calling for "advertised" matter, giving the date of this list and paying one cent.

Advertised matter is previously held one week awaiting delivery. It is held two weeks before it goes to the Dead Letter Office at Washington, D. C.

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Borcherdt, Chas.
Bohn Paul, Pabst
Barion, Alex. G.
Baston, Reuben
Boat, Peter, Baltimore
Brady, Thaman, Marquette
Bremen, J. M., Baltimore
Burns, Fred, Devereaux
Cunin, Henry, C. A. Eddy
Carter Wm.
Chickey, Jno.
Dennis, Roy Onito
Davis, F.
Doyle, W. J., Eureka
Endle, Wm., Carrington
Esseltine, S. E.
Emig, Edw., Tempest No. 2
Flagstad, A., Weston
Griner, Thos.
Hallman, Albert, Topeka
Honnell, D. J., No. 2
Heineman, Fred, J.W. Moore
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Jones, John, 2, Baldwin
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Johnson, C. E., New Orleans
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McNeil, Neil, Williams
McAuley, Henry
MacFarland, A. A.
Peterson, Anthony, Peck
Smith, F. W., Williams
Stanley, James
Schunek, W. 2, Tempest No.2
Stafford, Bruce, Hennepin
Steffer, Theo.
Taylor, Jas. S.
Thomas, Mabel
Warner, Lewis
Williamson, Harry
Wilckeling, Fred, Arenac

NOTICE TO MARINERS.

DOMINION OF CANADA—ONTARIO.

RANGE BEACONS AND SPAR BUOYS IN ENTRANCE TO STOKES' BAY, LAKE HURON.—Two beacons and six spar buoys have been placed for the government of Canada by Mr. W. J. Stewart, in charge of the hydrographic survey of Lake Huron, at the entrance of Stokes' bay, Lake Huron, Ontario, as follows:—

I. BEACONS.—1. The front beacon stands upon the northwest extreme of a group of small islands lying a half mile north of the northeast point of Lyal Island. It bears N. 56° E., and is distant 9,700 feet from Lyal Island lighthouse. It consists of a white slatwork triangle 16 feet high, surmounted by a white slatwork diamond, which makes the beacon 25 feet high.

2. The back beacon stands upon the east main shore of the bay. It bears N. 75° E., and is distant 4,050 feet from the front beacon. It consists of a white slatwork square 20 feet high, surmounted by a smaller but similar square which makes the beacon 55 feet high. A vertical black band, three feet wide, covers the middle of the beacon for its entire height.

These two beacons in one, N. 75° E. leads clear in from the lake to within 1,800 feet of the front one, or 1¼ miles inside the light-house, with a least depth of 22 feet of water.

II. BUOYS.—To further mark the entrance the following buoys have been placed:

A black spar buoy is moored in 22 feet of water N. 81° W., 10,650 feet from the light-house, or 3⅛ miles from the front beacon. It lies S. 48° W., 550 feet from a spot with 17 feet water on it, and 1,200 feet N. N. W. of the range, upon which 40 feet water will be found when passing.

Vessels approaching this buoy from the north-westward should take care when less than half a mile from it, that the light-house is seen south of the buoy bearing S. 81° E., to avoid the south-west shoal from Greenough Point.

2 A black spar buoy is moored in 17 feet water off the south side of the bank extending S. 40° W., about 2,400 feet from the dry (Mad) reef in the middle of the entrance. The buoy bears N. 43° W., and is distant 2,700 feet from the light-house, and 1¾ miles from the front beacon. The bank gradually shoals to the dry reef and gradually deepens to the westward. The S. E. edge trends N. 60° E. from the buoy. The buoy is only 150 feet from the line of range upon which, however, 22 feet water will be found when passing, and 29 feet may be had 150 feet further south. The water is good for 1,000 feet north of the line of the black buoys.

3 A red spar buoy is moored in 21 feet water 200 feet west of a small shoal with 14 feet least water upon it and 1,400 feet S. S. E. of the range. It also bears S. 87° W., 8,600 feet from the light-house, and almost 3 miles from the front beacon. This buoy marks the outer dangerous shoal off Lyal Island. Vessels may pass inside it, but strangers are advised not to.

N. 20° W. 1,000 feet from this red spar buoy is a shoal with only 21 feet least water upon it. As this shoal lies only 300 feet S.S.E. of the range, vessels should, in heavy weather take care they are *not south* of the range when abreast this outer red buoy.

4. A red spar buoy is moored in 21 feet water N. 18° W. 300 feet from a small rock with only 9½ feet water upon it. It bears N. 82° W., and is distant 6,500 feet from the light-house, and 2½ miles from the front beacon. It is 570 feet S.S.E. of the range, upon which 42 feet water will be found when passing. The water is good between these two red buoys.

5. A red spar buoy is moored in 18 feet water N. 40° W. 125 feet from a shoal spot with 9½ feet water upon it. It bears N. 68° W., and is distant 4,250 feet from the light-house and 2 1/10 miles from the front beacon. It lies 500 feet S.S.E. of the range upon which 30 feet water will be found when passing. The water is good between these buoys and for 500 feet south of the line joining them.

6. A red spar buoy is moored in 17 feet water to mark the north edge of a bank from Lyal Island. It bears N. 6° E., and is distant 3,150 feet from the light-house, and 1⅓ miles from the front beacon. It lies only 150 feet S.S.E., of the range, upon which 24 feet water will be found.

The rock awash between the two inner red buoys is fairly steep to and may be approached to within 450 feet.

A slight spit extends 600 feet north from the most northerly part of Lyal Island, or to within 200 feet of the range, but 22 feet may be carried past.

A small rock, with 17 feet least water upon it, is situated N. 28° E. 2,000 feet from the inner red buoy or N. 14° E. 5,000 feet from the light-house.

The anchorage space (in 3 to 6½ fathoms, mud bottom) is the whole water between Greenough Point and the front beacon island, Lyal Island and the point of the main land 1¼ miles north of it, there being only a slight fringe of shoal water off the islands and points.

DIRECTIONS FOR ENTERING STOKES' BAY.—Vessels approaching the entrance from the westward or north-westward should not approach nearer than half a mile to the outer black buoy until the light-house is seen south of it, bearing S. 81° E. If approaching from the southward round the outer red buoy at 100 yards distance and steer for Greenough Point until the range comes on. The range should be kept exactly on until abreast of the most northerly part of Lyal Island, when a vesssl may haul to the northward if desirous of anchoring near the village, or she may hold the range and anchor off the lightkeeper's boat harbor on the north side of Lyal Island. She should not, however, approach the front beacon within 2,000 feet. Owing to a bar with about 17 feet water over it extending north-west from the front beacon to the north shore of the bay, strangers of heavy draft had better commuuicate by boat with the village and telegraph office.

F. GOURDEAU,
Deputy Minister of Marine and Fisheries.

Department Marine and Fisheries, Ottawa, Canada, 14th October, 1899.

☞ All bearings, unless otherwise noted, are magnetic and are given from seaward, miles are nautical miles, heights are above high water, and all depths are at mean low water.

Pilots, masters or others interested are earnestly requested to send information of dangers, changes in aids to navigation, notices of new shoals or channels, errors in publications, or any other facts affecting the navigation of Canadian waters to the Chief Engineer, Department of Marine and Fisheries, Ottawa, Canada.

A TRIANGULAR DECISION.

The case of the steamer Conemaugh vs. the steamer New York, is before the Supreme Court at Washington this week. The district court blamed both vessels, then reversed in favor of the Conemaugh. An appeal to the circuit court of appeals brought a verdict for the New York for $5,000. If the Conemaugh wins the suit she will get $75,000.

Fairport Harbor, Ohio, is to have a steel mill that will rival the big Johnson plant at Lorain. The product will be steel bars, slabs, plates and billets. It will have a frontage of 4,500 feet on the river and cover 1,000 acres of land. It will be known as the Holly Steel Co.

ROCKEFELLER VERSUS CARNEGIE.

Apparently the fight is now on between Rockefeller and Carnegie, relative to lake work. Rockefeller has chartered everything in sight and the Carnegie interests have been equally as active in placing orders for new shipbuilding so that it is quite a question whether the Rockefeller or Carnegie interests become uppermost in the lake trade. Carnegie has the steel to offer, Rockefeller has the money to make steel, for that matter, so has Carnegie. It is palpable, however, that the Carnegie interests will win out, for the primal cause that Rockefeller has no control of the steel output and can't secure it for a year or two. It is here, perhaps, that some of our vessel owners may be dropped later for their chartering to an opposition firm. The battle is now on and the victory will be known to the defeated.

It is peculiarly strange that the ordinary vessel owner no longer knows "where he is at" in connection with next season's business. They want his tonnage and he don't wish to fix on terms offered. Actual dealings and future possible contracts are on such a gigantic scale that the owner of only several boats is in a quandary to know what to do with them for the best interests of all concerned, and himself in particular. Chartering ahead means money, yet not to charter may mean more, and the problem is, to say the least, difficult of solving. In this connection, our esteemed contemporary Coal and Coke of Pittsburg, says:

"The Carnegie Steel Co., Ltd., will begin at once a very extensive addition to their now enormous steel plants, keeping in the van of all competitors in the world. The new improvements will consist of: Two 700-ton blast furnaces at the Carrie plant, Rankin, Pa.; fourteen 50-ton basic open-hearth furnaces at the Duquesne plant; a steel bridge across the Monongahela river for conveying hot metal from the new Carrie furnace to the Homestead Steel Works; a reversible blooming mill at Duquesne to roll steel from the 14 open-hearth furnaces to be built there. The product will be billets and sheet bars for the trade. The cost of the improvements will be upwards of $6,000,000. Contracts for the blowing engines have already been awarded and the Secretary of War has issued the permit for the building of the bridge. The erection of these immense plants shows the confidence the Carnegie concern has in the future of the steel business and the faith that Pittsburg is the most desirable site for the manufacture of steel products.

"With the iron and steel furnaces now building and projected the Carnegie company will have within a year a producing capacity over 100 per cent. greater than any other concern in the world.

"The two blast furnaces will each have a capacity of 100 tons per day more than any one of the four giant furnaces at Duquesne. The Duquesne plant was put in operation in 1897, and, with an average production of 2,400 tons per day, has steadily led the blast furnaces of the world in the manufacture of iron. The two proposed stacks will have a capacity of 1,400 tons of iron in 24 hours, 700 tons each. These furnaces will be the largest in the world in every detail. These stacks will be 106 feet high, with a diameter of 23 feet in the bosh. The Duquesne furnaces are 100 feet high, with a diameter of 22 feet in the bosh. The new furnaces will be built on the Carrie furnace property of the Carnegie company at Rankin station, adjoining the east of the two old Carrie stacks, which have a capacity of 300 tons per day each.

"For the purpose of handling the large tonnage of iron to be produced by the new furnaces the Carnegie company will commence the erection at the same time of a double-track steel railroad bridge across the Monongahela river, connecting the Carrie furnace plant with the Homestead Steel Works, on the south shore, opposite. The molten metal will be run into ladle cars and hauled by locomotives across the river in the same condition, and, after the mixing process at the Homestead Works, the iron will be used in the open-hearth steel furnaces or the Bessemer converters. The same practice will govern in transporting the hot metal as is followed at the present time between the Edgar Thomson steel furnaces and the Homestead Steel Works, via the Union railroad bridge at Port Perry.

"The building of these two furnaces will give Allegheny county a total of 32 stacks with an aggregate annual capacity of 3,850,000 gross tons of pig iron, of which the Carnegie company will own 19, with a total capacity of 2,700,000 tons, or about 70 per cent. of the entire producing capacity of Allegheny county. With the addition of the new furnaces the four blast furnace plants of the Carnegie company will comprise the following: Edgar Thomson, nine stacks, 1,000,000 gross tons per annum; Duquesne furnaces, four stacks, 800,000 gross tons; Carrie furnaces, four stacks, 700,000 gross tons; Lucy furnaces, two stacks, 200,000 gross tons; total, 2,700,000 gross tons of pig iron per annum.

"Additions to the Duquesne works of the Carnegie company will include a large plant for the manufacture of open-hearth steel and the construction of a reversible blooming mill. The proposed plant at Duquesne will be the first to make open-hearth steel at these works, the product at present being Bessemer steel exclusively. With the new department completed both grades of steel will be made at Duquesne as well as at Homestead. The new open-hearth plant at Duquesne will be on the sight of the present offices, which will be removed. This plant at Duquesne will consist of fifty 14-ton furnaces, increasing the open-hearth steel capacity of the company over 200,000 tons per annum, which, with 40 furnaces at Homestead, will give a total capacity of 1,600,000 tons of open-hearth steel per annum.

"The new blooming mill to be constructed at Duquesne will be of the same design as the reversible mill now in operation at Homestead. It will handle the product of the new open-hearth department, which will be subsequently rolled into billets and sheet bars at the same works. Additional equipment for rolling the open-hearth blooms into billets and sheet bars will not be necessary; the billet train and sheet bar mill in operation at Duquesne at present being ample.

"In 1898 the Carnegie company made 5.34 per cent. of the pig iron product of the world, 17 per cent. of the iron produced in the United States, 35 per cent. of the production of Pennsylvania, and 63 per cent. of Allegheny county. The company produced over 9 per cent. of the steel output of the world, 25 per cent. of the steel production of the United States, 41 per cent. of the production of Pennsylvania, and 64 per cent. of Allegheny county.

"For many years the big Edgar Thomson furnaces bore the palm in the production of pig metal, each producing from 350 to 400 tons daily. Now the big furnaces at Duquesne are the leaders, producing 600 tons. Other companies have new furnaces of like capacity, but the new Carnegie furnaces will be the monsters of the iron world.

"The Carnegie Steel Co. now has under construction a monster axle works at Howard station, two plate mills at Homestead, besides one recently completed, and an open-hearth steel plant at Homestead, all of which are being pushed to completion."

VISIBLE SUPPLY OF GRAIN

As compiled for THE MARINE RECORD, by George F. Stone, Secretary Chicago Board of Trade.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY Bushels.
Buffalo	1,519,000	786,000	371,000	63,000	529,000
Chicago	10,333,000	4,787,000	1,359,000	423,000	34,000
Detroit	810,000	22,000	6,000	6,000	4,000
Duluth	7,487,000	129,000	104,000	261,000	589,000
Fort William, Ont.	1,778,000	.....	.....	.....	.....
Milwaukee	104,000	4,000	2,000	12,000	26,000
Port Arthur, Ont.	59,000	.....	.....	.....	.....
Toledo	2,230,000	905,000	649,000	7,000	.....
Toronto	106,000	.....	3,000	.....	24,000
On Canal	232,000	774,000	159,000	31,000	475,000
On Lakes	1,299,000	1,827,000	375,000	.....	516,000
Grand Total	48,555,000	14,099,000	6,742,000	1,063,000	2,510,000
Corresponding Date, 1898	14,848,000	24,633,000	6,164,000	1,339,000	3,204,000
Increase	1,241,000	.....	.....	244,000	408,000
Decrease	.....	966,000	327,000	.....	.....

While the stock of grain at lake ports only is here given, the total shows the figures for the entire country except the Pacific Slope.

A TOW HALF WAY ROUND AUSTRALIA.

In April last La Serena, a fine steamer of 2,300 tons, went ashore on the coast of Western Australia and became badly damaged—bottom severely strained, engines aud boilers "set up" about a foot, and plates and steam pipes broken and bent. Given up by her owners to the underwriters, she was afterwards brought back, and British pluck and seamanship set to work. The bottom, which looked like a battered kerosene tin, was heavily concreted and the engine and boilers shored up. Then came the little Franklin, a boat of 700 tons. She was to tow her big sister ship to Sydney—3,500 miles distant. The towing gear and the manner in which it was secured are interesting to read about. A sixteen inch coir (cocoanut fibre) hawser was made fast to La Serena's starboard cable, fifteen fathoms of which were put outside the hawse-pipe. Fifty feet from the stern of the Franklin the coir hawser was fastened to steel hawsers paid out from either quarter. These were secured to the after bitts on each side, then taken forward and made fast to the midship bitts. A 4½-inch steel hawser was used as a "preventer," being secured right forward to the starboard bitts, then taken aft and through the eye of the 16-inch coir hawser to a parallel position on the port side, where it was made fast to the forward port bitts. The voyage was accomplished without a single mishap, though at times bulky La Serena, in a heavy sea, would rear and jerk and tumble about in such a frantic manner that she threatened to tear the decks out of the little Franklin. Leaving Broome on July 2, the steamers set out northward, through the Gulf of Carpentaria and Torres Straits, and reached Sydney on Aug. 7—36 days. Such a feat is unparalleled in the Pacific; but it has been surpassed in the Atlantic. In 1890 the Liverpool tug Gamecock towed the disabled ship Ardencaple from the Falkland Islands to Liverpool; the ship was about 1,800 tons, the tug 370, and the distance 8,000 miles.—Liverpool Daily Post.

HARBOR CHANNEL AT DULUTH SUPERIOR.

Major Clinton B. Sears, Corps of Engineers, U. S. A., has iussed notices for a public hearing upon the matter of the readjustment of the harbor lines in the Duluth-Superior harbor. The changes which are contemplated are all to be made with a view of straightening the channels as much as possible, thereby making them more convenient for navigation and less liable to cause accident. On the Minnesota point side of the canal it is necessary to vary the line slightly on account of the inward sweep which has been given the new south canal pier. Just beyond the Duluth-Superior bridge an important change is to be made. For some distance up the bay from the bridge the line will run at a right angle from the bridge. The channel to the Duluth draw of the Northern Pacific bridge will run a perfectly straight line instead of swinging out from the point as it now does. The effect of this work will be to cut quite a piece off Rice's Point. On the end about eighty feet will have to come off and along the St. Louis bay side a strip which is about 80 feet wide at its widest part will also have to comeoff. The changes in the bay of St. Louis will begin at about the site of the Lesure Lumber Co's. mill. The channel will start from that point and will take as traight shoot in the direction of Ironton. It will cut off the end of Grassy Point and will add a large amount of dock area between Grassy Point and Spirit Lake. The channel at the present time takes a curve inward. The amount of dock property that will be added to the property near the Minnesota shore by this change in lines is more than 100 acres. Opposite the blast furnace the new channel will be nearly 1,300 feet farther out in the bay than at the present time. All the way up the river there will be changes, all made with a view to getting the channels as straight as possible and cutting off sharp corners.

RAPIDITY OF ELECTRICITY.

The time required for a journey round the earth by a man walking day and night, without resting, would be 428 days; an express train, 40 days; sound, at a medium temperature, 32½ hours; a cannon ball, 21¾ hours; light, a little over one-tenth of a second, and electricity, passing over a copper wire, a little under one-tenth of a second.

SHIPPING AND MARINE JUDICIAL DECISIONS.

(COLLABORATED SPECIALLY FOR THE MARINE RECORD).

Master and Servant—Contributory Negligence.—As the appearance of a rope did not indicate its weakness, and libelant had no knowledge of the length of time it had been in use, he was not negligent in obeying the mate's orders without question. The Ethelred, 96 Fed. Rep. (U. S.) 446.

Master and Servant—Death of Stevedore—Liability of Owners of Ship.—Where a ship was not bound to furnish tackle to hold up a chute used by contractors in loading the vessel with grain, and that used was rigged up by the stevedores employed by the contractors, the mere fact that the mate in charge did not object to the manner in which it was secured would not render the owners liable for the death of a stevedore, caused by the breaking of such tackle and the falling of the chute, the mate having no better means than others of judging of its safety. Jeffries et al. vs. DeHart, 96 Fed. Rep. (U. S.) 494.

Master and Servant—Injury to Seaman—Unsafe Appliances—Negligence of Mate.—Libelant, a seaman, who had just signed and reported for duty on board a steamer, fell, and was injured, by reason of the breaking of a rope which he directed by the mate in charge to use to support him while washing down the mast. The rope had been used for a number of voyages, and had been in a position where it was exposed to injury from heat and smoke, but during the preceding voyage had been subjected to no strain to test its strength. Held that, in failing to test it before directing its use, the mate was guilty of negligence for which the vessel was liable. The Ethelred, 96 Fed. Rep. (U. S.) 446.

IN a pamphlet sent out this week by the Dixon Co. we find the following: The Lunkenheimer Co., of Cincinnati, Ohio, are manufacturing a special sight-feed graphite lubricator for engine cylinders and steam pumps. They say the following of this lubricator:

"The cup can either be attached, like any ordinary sight-feed oil lubricator, to the steam pipe above the throttle, or below the throttle, or on the steam chest, with the upper steam connection above the throttle. On Corliss engines it may be desirable to use two cups, placing one above each valve, and making the stem connections above the throttle. On compound en gines there should be a cup applied to each cylinder. A sight-feed lubricator becomes entirely unnecessary and superfluous when an engine is provided with a graphite cup. To insure best results we recommend the use of Joseph Dixon Co.'s cylinder graphite.

IN THE OCEAN'S DEPTHS.

The temperature at the bottom of the ocean is nearly down to freezing point, and sometimes actually below it. There is a total absence of light, as far as sunlight is concerned, and there is an enormous pressure, reckoned at about a ton to the square inch in every thousand fathoms, which is 160 times greater than that of the atmosphere we live in. At 2,500 fathoms the pressure is 30 times more powerful than the steam pressure of a locomotive when drawing a train. As late as 1880 a leading zoologist explained the existence of deep-sea animals at such depths by assuming that their bodies were composed of solids and liquids of great density, and contained no air. This, however, is not the case with deep-sea fish, which are provided with air-inflated swimming bladders. If one of these fish, in full chase after its prey, happens to ascend beyond a certain level, its bladder becomes distended with the decreased pressure, and carries it in spite of its efforts, still higher in its course; in fact, members of this unfortunate class are liable to become victims to the unusual accident of falling upward, and no douht meet with a violent death soon after leaving their accustomed level, and long before their bodies reach the surface in a distorted and unnatural state. Even ground sharks, brought up from a depth of no more than 500 fathoms, expire before they gain the surface.

The fauna of the deep sea—with a few exceptions hitherto only known as fossils—are new and specially modified forms of families generally inhabiting shallow waters in modern times, and have been driven down to the depths of the ocean by their more powerful rivals in the battle of life, much as the ancient Britons were compelled to withdraw to the barren and inaccessible fastnesses of Wales. Some of their organs have undergone considerable modification in correspondence to the changed conditions of their new habitats. Thus, down to 900 fathoms their eyes have generally become enlarged, to make the best of the faint light which may possibly penetrate there. After 1,000 fathoms these organs are still further enlarged, or so greatly reduced that in some species they disappear altogether, and are replaced by enormously long feelers. The only light at great depths which would enable large eyes to be of any service is the phosphorescence of deep-sea animals.

We know that at the surface this light is often very powerful, and Sir William Thomson has recorded one occasion on which the sea at night was "a perfect blaze of phosphorescence, so strong that lights and shadows were thrown on the sails, and it was easy to read the smallest print." It is thought possible by several naturalists that certain portions of the sea bottom may be as brilliantly illuminated by this sort of light as the streets of a European city after sunset. Some deep-sea fish have two parallel rows of small circular phosphorescent organs running along the whole length of their bodies, and as they glide through the dark waters of the profound abysses they must look like model mail-ships, with rows of shining portholes.

Sir John Murray described to the members of the Geographical Section the conditions of life in the great depths of the ocean. Of the 103,000,000 square miles which the ocean floor measures, more than half, he said, was at a depth of between two and three geographical miles. On the Challenger charts all the arears where the depths exceeded 3,000 fathoms had been called "deeps," and distinctive names had been conferred upon them.

Forty-three depressions were now known, 24 in the Pacific, three in the Indian Ocean, 15 in the Atlantic and one in the Southern Ocean. Within these "deeps" 24 soundings exceed 4,000 fathoms, including three exceeding 5,000 fathoms. The greatest depth of all was to the east of Friendly Islands, in the South Pacific, where the depth was 5,155 fathoms, or, again, 2,000 feet more below the level of the sea than the highest part of the Himalayas was above it.

In the great depths below two geographical miles the water was very little above freezing point, and was a region of darkness as well as cold, for the direct rays of the sun were wholly absorbed in passing through the superficial layers of water. Vegetation was quite absent over 93 per cent. of the ocean bed, and that cold, dark floor was buried in dead marine organisms. In Sir John Murray's own words, "It thus happens that over nearly the whole floor of the ocean we have mingled the remains of animals which had lived at the surface of the water in tropical sun-light, and the remains of those which had lived all their lives in darkness and at a temperature near to the freezing point of fresh water."

ALUMINUM FOR SHIPBUILDING.

From the annual report of the British Aluminum Association we gather that a good deal has been said with regard to the injurious action of sea water on aluminum, but the board knew, by long experience, that aluminum did not deteriorate in salt water to the extent that had been alleged. The yacht Defender, which won the last international race, was built very largely of aluminum, and, after four and one-half years, she was found to have deteriorated so little that very few repairs were necessary to put her into condition to compete with the Columbia at the recent trials. Torpedo boats and other ships, moreover, had been built in France partly of aluminum. As aluminum was only one-third the weight of copper, it was apparent that about one-half the quantity of aluminum gave a corresponding amount of electrical conductivity to that given by copper. Lord Kelvin said that in the fittings of ships aluminum had proved valuable, convenient and of great practical utility. As to the actual construction of ships with aluminum, that was a matter which would have to be settled by the experience of engineers. He did not believe that the question of the efficiency of protecting aluminum by paint had yet been gone into sufficiently. If they compared an unprotected aluminum plate with steel or iron, he thought it would be found that the former did not rust away s› quickly as the latter.

NAVAL ESTIMATES FOR THE YEAR.

The estimates for the naval establishment for the fiscal year ending June 30, 1901, have just been approved by Secretary Long. The estimates amount to $73,045,183.15, an increase of $24,537,187.57. The increase includes $12,268,474.32 for public works at various navy yards and stations, the current appropriation for the same purpose being $5,840,786.50. For the new naval academy $2,021,000 will be required as compared with the current appropriation of $720,000. For the increase of the navy, including construction, machinery, armor and armament, $22,983,101 will be required, while the current appropriation is only $10,392,402. The Bureau of Construction and Repairs requires $3,000,000 additional. The Bureau of Steam Engineering $1,000,000, and for pay of the navy about $700,000. The Bureau of Ordnance on the other hand requires about $700,000 less.

MARNE PATENTS.

Patents on marine inventions issued Oct. 17, 1899. Reported specially for THE MARINE RECORD. Complete copies of patents furnished at the rate of ten cents each.

634,864, 634,865. Dredges. L. W. Bates, Chicago, Ill.

634,885. Blade for screw-propellers. James Glover, North Melbourne, Victoria.

635,035. Means for propelling vessels. Benjamin Brown, Chicago Ill., assignor of one-half to Rachel R. G. Brown and A. J. Robertson, same place.

635,068. Dock construction. Victor Windett, Chicago, Ill.

635,069. Life-preserver. Z. C. Angevine, Los Angeles, Cal.

635,085. Hawser-indicator. J. A. Varnum, Boston, Mass.

635,165. Constructing piers or dams. A. P. Elten, Cleveland, O., administrator of H. C. W. Weyhe, deceased, assignor to C. B. T. Wilckens, Bremen, Germany.

635,208. Current-motor. William Turner, Wenatchee, Wash.

635,270. Dredge. E. A. Rix and P. B. Donahoo, San Francisco, Cal.

635,384. Combined steering and propelling apparatus. Isador Lehman, Cleveland, Ohio.

635,394. Lift-bridge. August Ruthenberg, Rochester, N. Y., assignor of one-half to C. E. Kohlmetz, same place.

635,439. Life preserver. Ernst Kunert, Newark, N. J.

635,487. Raising or lowering steamboat stacks. Adam Jacobs, East Riverside, Pa.

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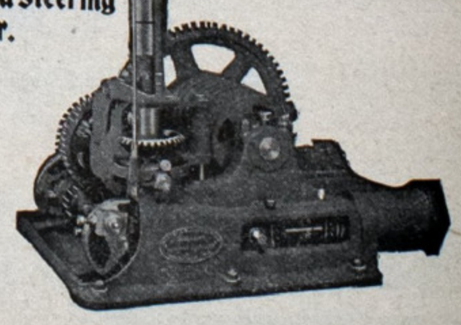

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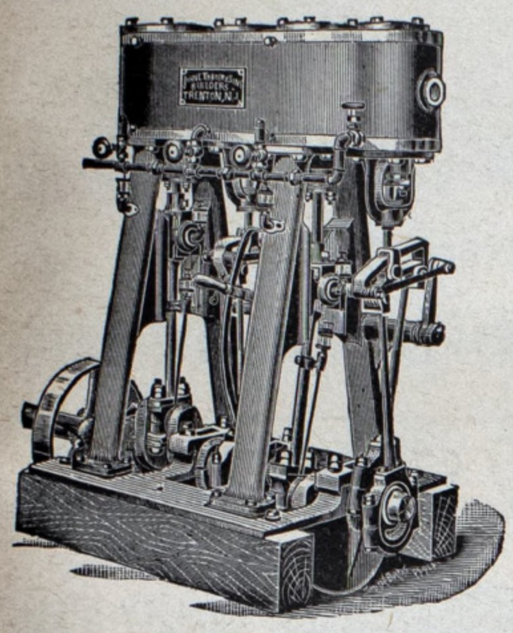

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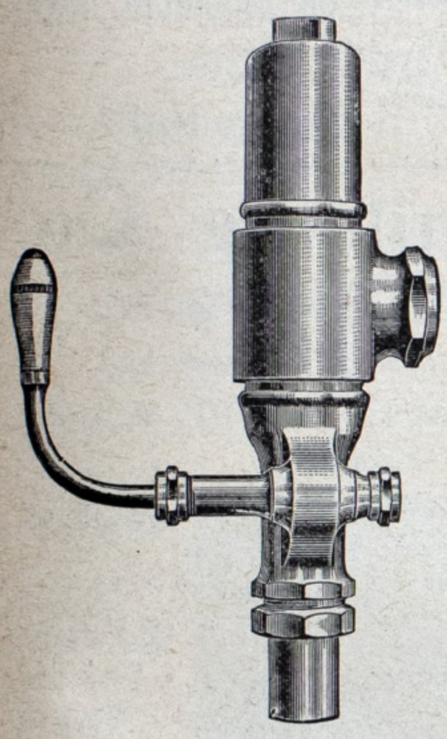

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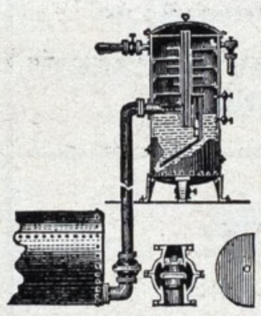

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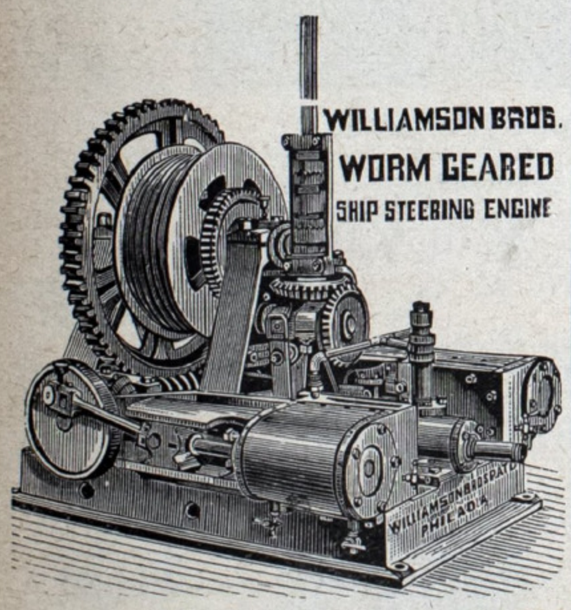

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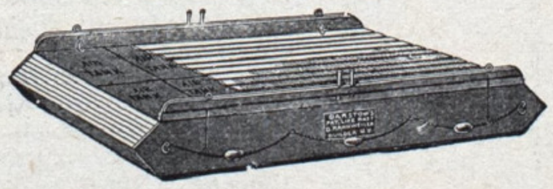

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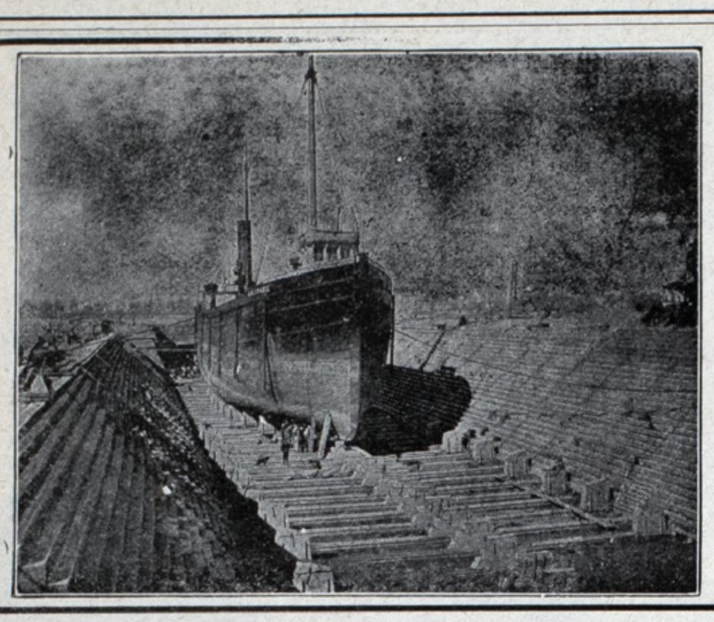

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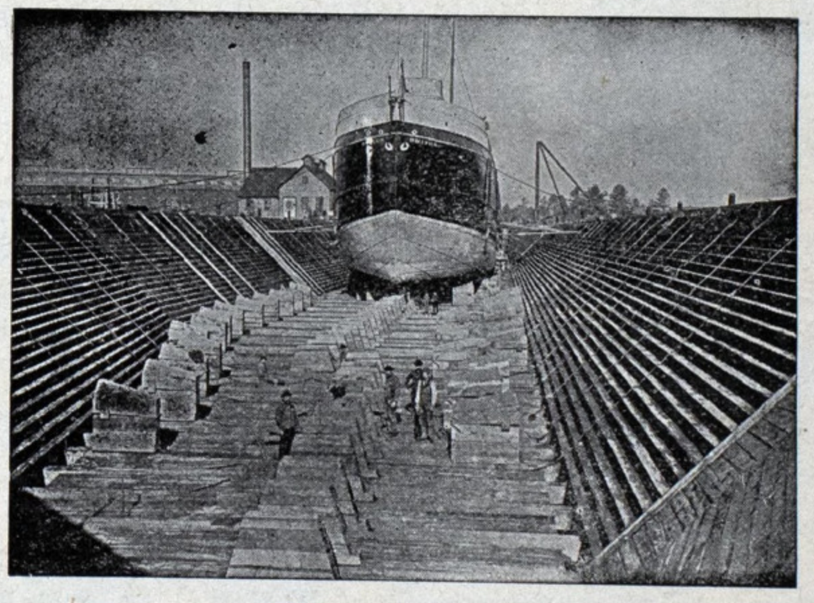

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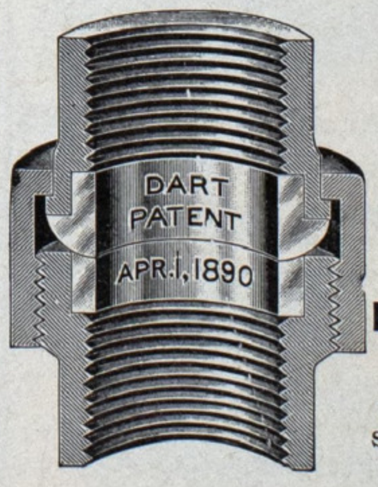

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